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**TWP  
Environmental  
Services (Pty) Ltd**

**WESIZWE HERITAGE  
IMPACT ASSESSMENT**

**Proposed platinum  
mining on portions of  
the farms Ledig  
909JQ,  
Frischgewaagd 96JQ  
& Mimosa 81 JQ,  
North West Province  
Version 1.0**

**29 June 2007**

**Service provider**



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## **WESIZWE PLATINUM HERITAGE IMPACT ASSESSMENT**

Proposed platinum mining on portions of the farms Ledig 909JQ, Frischgewaagd 96JQ & Mimosa 81 JQ, North West Province

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- The results of the project;
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## EXECUTIVE SUMMARY

As we know from legislation the surveying, capturing and management of heritage resources is an integral part of the greater management plan laid down for any major development or historic existing operation. With the proclamation of the National Heritage Resources Act 1999 (Act 25 of 1999) this process has been laid down clearly. This legislation aims to underpin the existing legislation, which only addresses this issue at a glance, and gives guidance to developers and existing industries to the management of their Heritage Resources.

The importance of working with and following the guidelines laid down by the South African Heritage Resources Agency cannot be overemphasised. This document forms part of the Environmental Impact Assessment for the proposed farms Frischgewaagd 96JQ (Portions 3, 4 and 11), Ledig 909JQ (Portions 1, 2, 3, 4, 5 and 6) and Mimosa 81JQ, North West Province.

The following outlines the findings of the report:

During the survey twenty four sites of heritage value were found within the project area, however only sites **MHC001**, **MHC002**, **MHC004** and **MHC021** fall within the conceptual footprint of the proposed mining area, these sites will require further work before mining can commence.

### **Site MHC001, and MHC004**

It is recommended that shovel pit testing is conducted on these sites to determine depth and integrity of archaeological deposit, also to collect more diagnostic ceramics to positively establish group identity. Based on the findings further assessment of the site might be required. If nothing further of heritage significance is uncovered a destruction permit for the site must be applied for from SAHRA and based on approval there of the site can be demolished.

### **Site MHC002**

For the Iron Age aspect: Shovel pit testing to determine depth and integrity of archaeological deposit of the site. Test pit excavations will be aimed at identifying structures. Based on the findings further assessment of the site might be required. If nothing further of heritage significance is uncovered a destruction permit for the site must be applied for from SAHRA and based on approval there of the site can be demolished.

For the Stone Age component: An Early Stone Age specialist must assess the study area, in particular the pebble layers that contain artefacts. The use of new dating techniques for Stone Age deposits must be investigated.

## MHC021

It is recommended that the site be preserved and fenced off to protect it during construction. If this is not possible within the mining plan it must be established if this is an unmarked grave. If this is the case the issue then needs to be addressed complying with all the relevant legislation.

### General

- **When the final layout plan is established for the mine it must be assessed whether any other sites will be impacted upon by roads, services, transmissions lines etc. The appropriate mitigation measures must be employed for these sites**
- **A Monitoring plan or watching brief must be agreed upon by all the stakeholders for the different phases of the project**
- **If during construction any possible finds are made, the operations must be stopped and a qualified archaeologist be contacted for an assessment of the find.**
- **Refer to the Heritage Management Program in Annexure C.**

*For recommendations on the sites that are not directly impacted upon by the present layout please refer to Section 6 of this report.*

If these recommendations are adhered to there is, from a Heritage point of view, no reason why the development can not commence.

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# 1. INTRODUCTION

Matakoma-ARM Heritage Contracts Unit was contracted by TWP Environmental Services to conduct a Heritage Impact Assessment of the proposed platinum mining operation on the farms Frischgewaagd 96JQ (Portions 3, 4 and 11), Ledig 909JQ (Portions 1, 2, 3, 4, 5 and 6) and Mimosa 81JQ, North West Province.

The aim of the study is to identify all heritage sites, document, and assess their importance within Local, Provincial and national context. From this we aim 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 the National Heritage Resources Act of 1999 (Act 25 of 1999).

The report outlines the approach and methodology utilised before and during the survey, which includes in Phase 1: Information collection from various sources and public consultations; Phase 2: Physical surveying of the area on foot and by vehicle; and Phase 3: Reporting the outcome of the study.

During the survey, twenty four heritage significant sites were found. General site conditions and features on site were recorded by means of photos, GPS location, and description. Possible impacts were identified and mitigation measures are proposed in the following report.

This report must also be submitted to SAHRA provincial office for scrutiny.

## 1.2 TERMS OF REFERENCE

As described in the Tender document

### ***Conduct an initial desktop study to:***

- Review available literature, previous heritage studies and other relevant information sources
- Gather data and compile a background history of the area;
- Identify all known and recorded archaeological and cultural sites; and
- Determine whether the area is renowned for any cultural and heritage resources, such as Stone Age sites, informal graveyards or historical farm homesteads.

**Conduct a field study to:**

- Consult with the local community and gather information on oral history, local history, possible informal graves, cemeteries, and other areas of cultural significance;
- Systematically survey the proposed project area to locate, identify, record, photograph and describe sites of archaeological, historical or cultural interest; and record GPS points of significant areas identified.
- Determine the levels of significance of the various types of heritage resources recorded in the project area;
- Report on the findings of the consultation with the local community;
- Identify the anticipated impacts, as well as cumulative impacts, of the operational units of the proposed project area defined in Section 4 on the identified heritage resources for all 3 phases of the project, i.e. construction, operation and decommissioning phases;
- Draw up a management plan to mitigate these anticipated impacts for all 3 phases of the project;
- Compile an archaeological and cultural management procedure according to IFC standards;
- Should it be necessary, draw up a monitoring programme for the life of mine;
- Consider alternatives should any significant sites be impacted adversely by the proposed project; -
- Ensure that all requirements of the local South African Heritage Resources Agency (SAHRA) are met; and ensure that all studies and results are sufficient to comply with ALL the relevant requirements of the Equator Principles, World Bank Standards and IFC Principles and Performance Standards and national legislation.

**1.3 BRIEF DESCRIPTION OF ENVIRONMENT**

The study area is situated south of the R556 between Sun City and the township of Ledig. The proposed access road into the study area is 3.04 km from the Sun City entrance in a westerly direction. The Pilanesburg National Park forms the northern boundary of the prospecting rights held by WPL on Ledig 909JQ while the Elands River forms the southern border of portion 11 of Frischgewaagd 96JQ. The river flows in an easterly direction and is joined by minor tributaries from both the north and the south. The majority of the area is characterised by mature, flat to gently undulating ground with variable cover of transported and saprolite regolith.

The study area falls within the Central Bushveld climatic region and is characterised by the Bushveld Igneous Complex. This complex, which originated 1 950 million years ago, not only consists of layers of norite, anorthite and praxinite, but also contains the Merensky Reef which is the worlds most renowned source of platinum group of metals.

The Merensky reef horizon would be mined first and then the UG2 reef horizon would be mined to fill up the ore clearing once Merensky starts to deplete and no longer remains in steady state ore clearing. The tonnage profile was to reach steady state at an ore clearing rate of 180ktpm ore. This option has a build up of 5 years and remains in steady state for 22 years and has got an average shaft head grade of 4.0g/t.

The average annual rainfall around the study area varies from approximately 380 mm in the north to just over 700 mm on parts of the Waterberg and the rainy season lasts from about November to March. The average daily maximum temperatures vary between 32°C in January and 22°C in July. The average daily minimum temperatures vary between 18°C in January and 4°C in July. Winds tend to be light, north-easterlies and the average sunshine duration is 60% in summer and more than 80% in winter.

The vegetation of the area can be classified as Mixed Bushveld (Acocks Veld Type 18, 1988) bordering on Sourish Mixed Bushveld (Acocks Veld Type 19, 1988). According to Low and Rebelo(1998) it falls within the Savanna Biome and can be classified as Mixed Bushveld. The vegetation can vary from a dense, short bushveld to an open tree savanna. Approximately 60% of this vegetation type has been transformed and only 3.05% is conserved.

The surfaces of the properties are mainly used as tribal farmland, for both pastoral and dry land cultivation. The village of Serosecha has been developed on Ledig 909JQ and that of Lekwadi on Frischgewaagd 96JQ. The largest single shareholder of WPL is the Bakubung-Ba-Ratheo Community (The tribe of the Hippo), made up of approximately 15 000 people. The authority of this community is vested in the Traditional Council headed by Kgosi Ezekiel Monnakgotla. He is functioning as regent for his father, Kgosi David Monnakgotla, who has been forced to step down from active leadership owing to ill health. The community falls within the Moses Kotane Local Municipality, which in turn falls within the Bojanala Platinum District Municipality.

## 1.4 ARCHAEOLOGICAL LEGISLATION AND BEST PRACTICE

Refer to Annexure C for Legislation Extracts

Phase 1 Archaeological Impact Assessments or Heritage Impact Assessments are a prerequisite for development in South Africa as prescribed by SAHRA and stipulated by legislation. The overall purpose of 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 Environmental Impact Assessment [EIA] is required under the National Heritage Resources Act NHRA of 1999 (Act 25 of 1999), Section 38(1), Section 38(8) the National Environmental Management Act (NEMA) and the Mineral and Petroleum Resources Development Act (MPRDA).

The AIA should be submitted, as part of the EIA or Environmental Management Plan [EMP], to the Provincial Heritage Resource Agency (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 required additional development information, as per the EIA / 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. 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 the Association of Southern African Professional Archaeologists [ASAPA] in collaboration with SAHRA. ASAPA is a legal body, based in South Africa, representing professional archaeology in the Southern African Development Community [SADC] region. ASAPA is primarily involved in the overseeing of archaeological ethical practice and standards. 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 guidance 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 should be done under 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 is conducted on a site, a destruction permit must be applied for from SAHRA before development may proceed.

## **1.5 ABBREVIATIONS AND DEFINITIONS**

*ASAPA*: Association of South African Professional Archaeologists

*BPEO*: Best Practicable Environmental Option

*CRM*: Cultural Resource Management

*DEA&DP*: Department of Environmental Affairs and Development Planning

*DEAT*: Department of Environmental Affairs and Tourism

*DWAF*: Department of Water Affairs and Forestry

*EIA practitioner*: Environmental Impact Assessment Practitioner

*EIA*: Environmental Impact Assessment

*EIA*: Early Iron Age

*ESA*: Early Stone Age

*GPS*: Global Positioning System

*HIA*: Heritage Impact Assessment

*I&AP*: Interested & Affected Party

*IDP*: Integrated Development Plan

*LSA*: Late Stone Age

*LIA*: Late Iron Age

*MSA*: Middle Stone Age

*MIA*: Middle Iron Age

*NEMA*: National Environmental Management Act

*NHR Act*: National Heritage Resources Act

*PHRA*: Provincial Heritage Resources Agency

*PSSA*: Palaeontological Society of South Africa

*ROD*: Record of Decision

*SACLAP*: South African Council for the Landscape Architect Profession

*SAHRA*: South African Heritage Resources Agency

*SAIA*: South African Institute of Architects

*SAPI*: South African Planning Institute

*SDF*: Spatial Development Framework

### *Archaeological resources*

This includes:

- material remains resulting from human activity which are in a state of disuse and are in or on land and which are older than 100 years including artefacts, human and hominid remains and artificial features and structures;
- rock art, being any form of painting, engraving or other graphic representation on a fixed rock surface or loose rock or stone, which was executed by human agency and which is older than 100 years, including any area within 10m of such representation;
- wrecks, being any vessel or aircraft, or any part thereof which was wrecked in South Africa, whether on land, in the internal waters, the territorial waters or in the maritime culture zone of the republic as defined in the Maritimes Zones Act, and any cargo, debris or artefacts found or associated therewith, which is older than 60 years or which SAHRA considers to be worthy of conservation;
- features, structures and artefacts associated with military history which are older than 75 years and the site on which they are found.

### *Cultural significance*

This means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance

### *Development*

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

- construction, alteration, demolition, removal or change in use of a place or a structure at a place;
- carrying out any works on or over or under a place;

- subdivision or consolidation of land comprising a place, including the structures or airspace of a place;
- constructing or putting up for display signs or boards;
- any change to the natural or existing condition or topography of land;
- any removal or destruction of trees, or removal of vegetation or topsoil

#### *Heritage resources*

This means any place or object of cultural significance

#### *Stakeholders*

A subgroup of the public whose interests may be positively or negatively affected by a proposal or activity and/or who are concerned with a proposal or activity and its consequences. The term includes the proponent, authorities and all interested and affected parties (Fransen 2004).

## **2. APPROACH AND METHODOLOGY**

The aim of the study is to extensively cover all data available to compile a background history of the study area; this was accomplished by means of the following phases.

### **2.1 PHYSICAL SURVEYING**

Due to the nature of cultural remains, the majority that occur below surface, a physical walk through of the study area was conducted. Matakoma - ARM Heritage Contract Unit were appointed to conduct a survey of the footprint of the proposed development. The study area was surveyed in intervals over two weeks, by means of vehicle and extensive surveys on foot. The project team consisted of Jaco van der Walt, Wouter Fourie, Anton Pelsler, Polke Birkholtz (Accredited CRM specialist with ASAPA and SAHRA) and Professor T.N Huffman who assisted in identifying the decorated ceramics.

Aerial photographs and 1:50 000 maps of the area were consulted and literature of the area were studied before undertaking the survey. The purpose of this was to identify topographical areas of possible historic and pre-historic activity. All sites discovered both inside and bordering the proposed development area was plotted on 1:50 000 maps and their GPS co-ordinates noted. 35mm photographs on digital film were taken at all the sites.

### 3. WORKING WITH LEGISLATION

It is very important that cultural resources be evaluated according to the National Heritage Recourse Act. In accordance with the Act, we have found the following:

These sites are classified as important based on evaluation of the National Heritage Recourses Act 1999 (Act No 25 of 1999) section 3 (3).

A place or object is to be considered part of the national estate if it has cultural significance or other special value because of-

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

(Refer to Section 9 of this document for assessment)

These sites should be managed through using the National Heritage Recourses Act 1999 (Act No 25 of 1999) sections 4,5 and 6 and sections 39-47.

Please refer to Section 9 for Management Guidelines.

## 4. ASSESSMENT CRITERIA

This chapter describes the evaluation criteria used for the sites listed below.

The evaluation of the significance of archaeological sites was based on four main criteria:

**site integrity** (i.e. primary vs. secondary context),

**amount of deposit, range of features** (e.g., stonewalling, stone tools and enclosures),

**uniqueness** and

**potential** to answer present research questions.

These criteria are then utilised to rate heritage sites from the table listed in Section 4.2.1

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

**A** - No further action necessary;

**B** - Mapping of the site and controlled sampling required;

**C** - Preserve site, or extensive data collection and mapping of the site; and

**D** - Preserve site

Impacts on these sites by the development will be evaluated as follows

### 4.1 IMPACT

The potential environmental impacts that may result from the proposed development activities.

#### 4.1.1 Nature and existing mitigation

Natural conditions and conditions inherent in the project design that alleviate (control, moderate, curb) impacts. All management actions, which are presently implemented, are considered part of the project design and therefore mitigate against impacts.

## 4.2 EVALUATION

### 4.2.1 Site Significance

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

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

## 4.2.2 Impact Rating

### *VERY HIGH*

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

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

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

### *HIGH*

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

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

**Example:** The change to soil conditions will impact the natural system, and the impact on affected parties (in this case people growing crops on the soil) would be HIGH.

### *MODERATE*

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

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

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

## *LOW*

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

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

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

## *NO SIGNIFICANCE*

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

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

### **4.2.3 Certainty**

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

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

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

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

### **4.2.4 Duration**

*SHORT TERM:* 0 to 5 years

*MEDIUM:* 6 to 20 years

*LONG TERM:* more than 20 years

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

Example

*Evaluation*

<b>IMPACT</b>	<b>IMPACT SIGNIFICANCE</b>	<b>HERITAGE SIGNIFICANCE</b>	<b>CERTAINTY</b>	<b>DURATION</b>	<b>MITIGATION</b>
Negative	Moderate	Grade GP.B	Possible	Short term	B

## 5. HISTORICAL BACKGROUND OF AREA

As heritage surveys deal with the locating of heritage resources in a prescribed cartographic landscape, the study of archival and historical data, and especially cartographic material, can represent a very valuable supporting tool in finding and identifying such heritage resources.

The historical background and timeframe can be divided into the Stone Age, Iron Age and Historical timeframe. These can be divided as follows:

### **Stone Age**

The Stone Age is divided in Early; Middle and Late Stone Age and refers to the earliest people of South Africa who mainly relied on stone for their tools.

*Early Stone Age:* The period from  $\pm$  2.5 million yrs -  $\pm$  250 000 yrs ago. Acheulean stone tools are dominant.

*Middle Stone Age:* Various lithic industries in SA dating from  $\pm$  250 000 yrs – 22 000 yrs before present.

*Late Stone Age:* The period from  $\pm$  22 000-yrs before present to the period of contact with either Iron Age farmers or European colonists.

### **Iron Age**

The Iron Age as a whole represents the spread of Bantu speaking people and includes both the Pre-Historic and Historic periods. Similar to the Stone Age it to can be divided into three 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.

### **Historic Timeframe**

17th Century to present AD (1600 – 2000)

The historic timeframe intermingles with the later parts of the Stone and Iron Age, and can loosely be regarded as times when written and oral recounts of incidents became available

## 5.1 INFORMATION AVAILABLE ON AREA

### 5.1. AIMS

The primary aim of the study was to locate and review available archival and historical records in an attempt to provide supportive information for the Heritage Impact Assessment. The results of the study can be used to make recommendations based on historical truth rather than conjecture.

### 5.2. METHODOLOGY

The methodology consisted of the study of published and unpublished literature, archival records, as well as maps to compile the available information needed to address the project aims. The National Archives as well as the UNISA Library were approached for information.

### 5.3. CARTOGRAPHIC MATERIAL

Although various attempts were made to locate as many archival maps of the study area as possible, only two contemporary maps could be located, namely the Rustenburg and Waterberg sheets of the Major Jackson Series. As the study area is situated across both these maps, they will be depicted together as one image.

#### ***5.3.1 Rustenburg and Waterberg Sheets of the Major Jackson Series.***

**Figure 1** depicts two sheets which formed part of the Major Jackson Map Series. This series was compiled by the Field Intelligence Department during the South African War (1899-1902) under supervision of Major H.M. Jackson of the Royal Engineers. The northern of the two sheets is known as the Waterberg sheet, and is presently undated (National Archives, Maps, 3/584). The southern sheet is known as the Rustenburg sheet of which the depicted sheet is the Second Revised Edition dated to 1902 (National Archives, Maps, 3/26). The following observations can be made from the combined map:

The old wagon road between Rustenburg and Saulspoort passed over the farm Frischgewaagd. According to the available site locality plan the road passes through the present study area as well.

At the time the farm Mimosa was known as Onderstepoort (number 421).

The old farmhouse on the farm Onderstepoort is depicted. The name of the farmer is given as Fouché. It seems very likely for the farmhouse to be located within the present study area.

Two 'huts' are depicted on the farm Onderstepoort, of which one is situated within the present study area.



Figure 1: Enlarged sections of the 'Rustenburg' and 'Waterberg' sheets of the Major Jackson Series.

## 5.4. EARLY FARM OWNERSHIP HISTORY

### 5.4.1 *Onderstepoort*

The farm Onderstepoort (old number 421) which is presently known as Mimosa 81 JQ, was first inspected on the 28<sup>th</sup> of April 1859 by S. Eloff. On the 8<sup>th</sup> of March 1860 the farm was transferred to Tjaart Andries van der Walt.

On the 31<sup>st</sup> of March 1871 the southern portion of the farm was transferred from Petrus Jacobus van der Walt on behalf of T.A. van der Walt to Johannes Lodewikus van der Walt. On the same day the remainder of the farm was transferred from Petrus Jacobus van der Walt on behalf of T.A. van der Walt to Joseph Gerrit Abraham Kruger, Gert Abraham Coetzee, Paulus Jacobus du Plessis, Philippus Jacobus Wilhelmus Schutte and Stephanus van Wyk.

On the 22<sup>nd</sup> of January 1872 the southern portion of the farm was transferred from Johannes Lodewikus van der Walt to Cornelis Bernardus Jacobus Grobler. On the 15<sup>th</sup> of April 1873 the remainder of the farm was transferred from J.G.A. Kruger, G.A. Coetzee, P.J. du Plessis, P.J.W. Schutte and S. van Wyk to Petrus Lodewikus Bezuidenhout. After his death in c. 1890 this portion was transferred in terms of the Estate of P.L. Bezuidenhout to Petrus Lodewikus Bezuidenhout, Johannes Stephanus Bezuidenhout, Stephanus Johannes Marthinus Bezuidenhout, Jan Philippus Carel Nicolaas Bezuidenhout, Abraham Petrus Jacobus Bezuidenhout, Pieter Lodewicus Bezuidenhout, Hendrik Johannes Lodewicus Petrus Bezuidenhout, Willem Jacobus Bezuidenhout, Willem Jacobus Bezuidenhout (jnr.), Barend Johannes Vorster (married to Aletta Sophia Bezuidenhout), Johannes Gerhardus Visser (married to Martha Jacoba Bezuidenhout), Cornelis Johannes Bodenstein (married to Johanna Cornelia Bezuidenhout), Jacob Abraham Erasmus (married to Susanna Catharina Bezuidenhout) and Hendrik Gabriel Steyn (married to Ester Francina Jacoba Bezuidenhout).

### 5.4.2 *Frischgewaagd*

The farm Frischgewaagd (old number 542) was first inspected on the 26<sup>th</sup> of March 1862 by N.J. Theunissen. On the 25<sup>th</sup> of June 1862 the farm was transferred to P.J. Robbertse. On the same day it was transferred from P.J. Robbertse to Jacobus Johannes Erasmus. On the 13<sup>th</sup> of December 1865 the farm was transferred from J.J. Erasmus to Cornelis Barnardus Jacobus Grobler. On the 19<sup>th</sup> of October 1872 one half of the farm was transferred from C.B.J. Grobler to Johan Frederick and Jan George Mathys Stadler Kirsten. On the 19<sup>th</sup> of July 1893 the remaining half of the farm was transferred from C.B.J. Grobler to Jacobus Paulus Voesee.

On the 5<sup>th</sup> of December 1895 the first half of the farm was transferred from J.G.M.S. Kirsten to Harry Carrington Lovemore and Charles Lennox Kretschmar. On the 6<sup>th</sup> of May 1898 this portion was transferred from C.L. Kretschmar to Harry Carrington Lovemore (RAK 3011).

## **5.5. GENERAL ASPECTS WITH REGARDS TO THE HISTORY OF THE STUDY AREA**

### **5.5.1 The Tswana**

The Tswana chiefdoms form part of the larger group of Sotho peoples, while the Sotho group itself is one of the three great sub-divisions of the Bantuspeaking peoples situated north of the Nguni. In addition to the Batswana or 'Western Sotho', the Sotho group includes the Basotho of Lesotho and the Orange Free State, to whom the term 'Sotho' has come to be more specifically and almost exclusively applied. This group sometimes also is referred to as the 'Southern Sotho'. The third group comprises the Bapedi who have been generally referred to as the 'Northern Sotho',

These different Sotho groups that together may be more conveniently described as 'Sotho-Tswana' at the very earliest stage of their history shared a number of linguistic and cultural characteristics that distinguished them from other Bantu-speakers of southern Africa.

These are features such as totemism, a pre-emptive right of men to marry their maternal cousins, and an architectural style characterised by a round hut with a conical thatch roof supported by wooden pillars on the outside. Other minor distinguishing features included their dress of skin cloaks or dikobo and breech-cloths, a variety of Moloko –type pottery and a predilection for dense and close settlements, as well as a tradition of large-scale building in stone.

Four groups are of importance in the study area. These are the Fokeng, Tlokwa, Thlako and Kgatla. This area surrounding the study area was always seen as a contentious area between the Fokeng and Tlokwa.

### ***Bakgatla бага Kgafêla of Pilanesberg***

After their separation from the Bakgatla бага Mosêlha (between AD 1670 - AD 1720), the Kgafêla settled at various locales on their north-western journey towards the Crocodile (Odi) River.

The area between the Crocodile River and the Pilanesberg Mountains was under the control of the Batlhako and as a result the Bakgatla had to pay tribute. This implies that the Batlhako have been in the Pilanesberg area for some time before the Bakgatla arrived. Kgosi Masellane settled at Mabule, a hill on the farm Kruidfontein near the present town called Saulspoort (Moruleng).

Kgwefane ruled circa AD 1760 - AD 1770 and settled at Saulspoort (Moruleng).

Molefe, son of Kgwefane ruled circa AD 1770 - AD 1790 and lived at Maramapong (north east of Saulspoort).

Although the Elands River was seen as the northern boundary of the Bafokeng influence, it was not always honoured by them. A great battle was fought near Pilwe Mountain (home of the Batlôkwa) between, on the one side the Batlôkwa and Kgafêla and on the other side the Bafokeng and their allies the Batlhako, Bakubung, Bepô and others. The Batlôkwa-Kgafêla alliance defeated the Bafokeng and their allies.

The Kgafêla claimed sovereignty over most of the land between the Crocodile, Marico and Elands Rivers.

During this time the sphere of influence of the Bafokeng was generally accepted to be the region north of Rustenburg with the northern border demarcated by the Elands River (south of Pilanesberg). The unwillingness of the Bafokeng to honour or recognize this boundary caused much friction which resulted in constant raiding of cattle between the various groups living in the area.

Kgosi Pilane moved his capital first to Bogopane (Bogopana; on the farm Maroelasfontein, near Witfonteinrand Mountains) and later to Mmamodimokwana (on the farm Schilpadnest, near the Crocodile River). During this time the Kgafêla united as a group and again acquired cattle and cultivated their lands.

Although, in a sense united, the Kgafêla were incapable to resist the aggressive onslaught of Mzilikazi's Zulu warriors, who arrived in the Pilanesberg region between AD 1828 - AD 1830 (possibly as early as 1825). Though not without resentment, the Kgafêla decided to pay tribute in the form of skins, grain and ivory.

After the withdrawal of Mzilikazi from the Rustenburg-Pilanesberg area and eventual defeat in two skirmishes, which took place north of Zeerust in 1837 (he later settled at Bulawayo in Zimbabwe), Pilane finally returned to his people. He soon established a more permanent capital at Mmasebudule (Mmasobudule or Masibudule; on the farm Rhenosterspruit 908JQ west of the Elands River), which is situated adjacent to a fertile valley, formed by the Mankwe River, a non-perennial subsidiary of the Elands River.

During the rest of his reign Pilane governed his people well and acted as regional peacemaker when potential conflict flared up (i.e. among the Bafokeng, Batlhako and Barolong). Pilane died at his capital, Mmasebudule, but the date of his death is unclear. During his reign Kgamanyane was also troubled by disputes with his brothers.

Tshomankane (of the second house) seceded with a large following and established himself as an independent chieftain at a place called Bopitikô (Bopitikelo; on the farm Doornhoek or Ledig). Letsebe (of the fifth house) also seceded and moved to Molorwe (Janskop) and eventually joined the Bakwena of Sechele at Dithebyane.

The Kgatla later moved to Mochudi in Botswana.

The sphere of influence of the Kgatla is mostly on the northern and eastern side of Pilanesberg

### ***Batlokwa of Pilanesberg***

Mention is made of early occupation near Pilwe Mountain on farms such as Zwaarverdiend 234JP adjoining Selons Location to the east which is on the farm Grootwagendrift 233JP, south of Pilwe Mountain.

Taukobong (Taukubong) started his rule at Mankwe River some time during AD 1780, and later moved his capital further south-west to Maruping at Pilwe Mountain (on the farms Zwartkoppies 212JP and Zwaarverdiend 234JP, eleven kilometres from Mankwe River), south-west of Pilanesberg.

A section later became known as the Batlokwa ba Bogatsu under Bogatsu who ruled from circa AD 1810 settled west of Pilwe ('Piloe') mountain at Marothodi (on the farm Vlakfontein 207JP), where he died in circa AD 1815.

They later relocated to Letlhakeng (on the farm Putsfontein, west of Mabieskraal and north of Matlapeng (Matlapynsberg) Mountains).

The Tlokwa settled on the south-western areas of Pilanesberg.

### ***Batlhako of Pilanesberg***

After some movement they settled at Mabyanatsiri (on the Elands River near Selons Location) but later relocated to Moreteletsi (on the farm Rietfontein [Syferfontein]) situated on the southern slope of the Matlapeng Mountains (Matlapynsberge). Later they settled at Maseletsane on the northern slope of Pilwe Mountains, circa AD 1750. Later also on the farm Palmietfontein 208JP, on the western periphery of Pilanesberg).

During Motsisi's rule the Batlhako settled at Legatalle (on the north-eastern part of Ruighoek, near a pass that leads into the western periphery of Pilanesberg), where he died. Molotsi also lived and died at Legatalle, around AD 1820 - AD 1830. Legatalle's son Mabe moved to Motsitle (on the farms Mabieskraal 161JP and Turflaagte 163JP).

After separating from Matutu, the senior Batlhako were successively ruled by Leêma, Ramoletsana, Mothule and Thiti, but nothing significant is known about them. Kgosi Boikango (Boikanyo) settled at Bothule (Bohule) (on the farm Rooderand 46JQ, on the north-western periphery of Pilanesberg), where he died circa AD 1790 - AD 1800. His son Ntwane resettled at Manese (on the farm Zwartboois kraal). After conferring the rule to his son Tlhogwane, Ntwane visited Botswana where he died in circa AD 1830. Tlhogwane moved from Manese to Tlhatlhaganyane (a mountainous area on the farm Ruighoek 169JP) in circa AD 1830 - AD 1835.

The Tlhako occupied the southern and western edges of Pilanesberg.

### ***Bakubung ba Ratheo***

The Bakubung ba Ratheo were resettled from Ventersdorp District to the farms Ledig 93JQ, Wydhoek 92JQ and Koedoesfontein 94JQ (on the southern periphery of the Pilanesberg) in 1966 and, therefore, do not form part of the Iron Age settlement sequence of the area.

The Bakubung Ba-Ratheo community settled at Molote village, close to Boons in the North West province, around 1785. They were forcefully removed in 1966 to their current location, in the area of the Ledig village, approximately 70 kilometres to the north of Molote village. The rights of the three farms (4500ha) bought by the then Bophuthatswana Government were only transferred to the tribe in 1981. The establishment of the Pilanesberg National Park saw the reclamation of portions of land from the tribe by the Government of the time. Keenan (1984) report mentions that land was offered in return, but that the land was unsatisfactory for agriculture and far from the Ledig village.

Early Moloko sites will be of extreme importance as some are also known from inside the Pilanesberg. Early AD 1300 – 1400 dates have been recorded with Icon, Madikwe, Olifantspoort pottery. These sites are possibly linked to an early Barolong occupation.

### ***5.5.2 Mzilikazi the Tswana and Chief Pilane***

Mzilikazi was born in 1795 to Mashobane, chief of the Northern Khumalo clan in Zululand. On the death of Chief Mashobane, who had been murdered by Zwide, Mzilikazi was duly installed as chief of the Northern Khumalo clan. But, after Dingiswayo's death, instead of siding with Zwide, in exchange for the protection of his people, Mzilikazi swore allegiance to Shaka, who had risen to power as a commander of Dingiswayo's army and had usurped the Zulu chieftainship and taken over the Mthethwa confederacy after Dingiswayo's death, (Howcroft, undated).

Proving himself a fearless warrior, Mzilikazi soon became one of Shaka's advisers. Shaka's trust, however, was misplaced. Mzilikazi dreamed of being a potentate himself. Dissatisfied with a life of subservience, he plotted to free himself and his people from Shaka's influence. In June 1822, Shaka sent Mzilikazi's regiments to attack the Sotho chief Ranisi (Somnisi). They pounced on the Sotho chief's defenceless rabble and drove away their herds. Defying Shaka, Mzilikazi refused to give up the spoils of battle and in June 1822, he bolted with his followers, (Howcroft, undated).

### ***The Matabele***

Moving north and north-west, as he pillaged and slaughtered, Mzilikazi rounded up the strong men and women, turning the men into army recruits and the women into concubines for his warriors, his possessions increasing with his power and prestige, and his followers numbering, in due course, more Sotho youths than Zulu. Having cleared for himself a wide area, in about 1822-23 Mzilikazi temporarily joined forces with Nxaba, a chieftain of the

Nguni-speaking Ndzundza Ndebele community who lived in the Middelburg area. Here, he built the royal kraal ekuPhumuleni (Place of Rest). By then, the size of the Khumalo clan was swollen by other Nguni-speakers who had settled in the area.

During the early years of their migrations Sotho-speakers of the highveld called Nguni-speakers 'maTebele', a name they used for all people who came from the coast, whereas the Nguni-speakers called themselves Ndebele. After the arrival of Mzilikazi on the highveld, the name Matabele became especially attached to his fearful hordes, and historians later wrote of this period referring to the Matabele wars. While living among the Ndzundza, Mzilikazi subjugated the old baPedi kingdom of Chief Thulare, killing five of his nine sons, but one son, Sekwati, fled north to the Soutpansberg Mountains, where his people were able to repulse Mzilikazi's attacks.

Mzilikazi settled for a while along the Vaal River until Korana cattle raiders became a threat. In the winter of 1827, Mzilikazi decided to move northwards. The Matabele army swept through the Magaliesberg via Kommandonek near the present Hartbeespoort Dam. Mzilikazi established temporary settlements near present-day Rustenburg, then launched into action against the baKwena, roasting some alive, clubbing most to death, and piling the infants onto mounds of brushwood, which were set ablaze. After falling on the Kwena at Silkaatsnek the Matabele turned on the Po who were easily overwhelmed. Kgatla Chief Pilane fled to the hills that now bear his name. Mzilikazi ruthlessly, massacred the remaining Tswana groups in the area. Using the Magaliesberg as his centre, Mzilikazi expanded his kingdom, which by then stretched from the Vaal River in the south to the confluence of the Crocodile and Limpopo Rivers.

Between 1827 and 1832, Mzilikazi built himself three military strongholds. The largest was Kungwini, situated at the foot of the Wonderboom Mountains on the Apies River, just north of present day Pretoria. Another was Dinaneni, north of the Hartbeespoort Dam, while the third was Hlahlandlela in the territory of the Fokeng near Rustenburg. By 1829, the total Matabele population numbered about 70,000, consisting of the Matabele elite and a vast number who had been enslaved. Most of the Tswana settlements were desolate, (Carruthers, 1990).

### **5.5.3 The study area and the South African War**

No battles or skirmishes from the South African War are recorded to have taken place within the study area. However, a single archival reference was found which referred to the "...*Rustenburglager by Frischgewaagd, Distrik Rustenburg...*" (Rustenburg laager at Frischgewaagd, District of Rustenburg) (TAB, OD, OR1542/00). Although no other archival documents with regards to such an encampment on the farm Frishgewaagd was found, the book titled *Rustenburg at War* by Lionel Wulfsohn indicated that a laager was established near the drift crossing over the Elands River. He also indicates that this place is presently situated on the main road to Sun City.

The history of this laager can be found in the history of the relations between the Boers and the Bakgatla even before the commencement of the South African War. Before the 1840s to 1860s many of the areas falling between present-day Botswana and Rustenburg used to be owned by the Bakgatla people. From the 1840s and 1850s onward these areas were being settled by the first Boer immigrants who established and proclaimed farms in the area. As example of this the farms Onderstepoort and Frischgewaagd were inspected during 1859 and 1862 respectively.

Many of the Bakgatla began to work on the Boer farms as tenants. From the 1860s onward various complaints were raised by these farm tenants due to the harsh conditions under which they worked (Warwick, 1983). The feeling of discontent came to a point when Kgoši Kgamanyane, who resided with his people near Saulspoort, was assaulted by (later President) S.J.P. (Paul) Kruger, the then owner of Saulspoort farm. This resulted in the movement of Kgamanyane and a portion of his people from the Saulspoort area to Bechuanaland (present-day Botswana) where they established the town of Mochudi (Wulfsohn, 1987). According to Warwick (1983) this exodus took place in 1869.

Kgamanyane was succeeded by his son Linchwe in 1874. Linchwe was a good diplomat and statesman and originally had a reasonably good relationship with the Boer republic. His attitude started to change when Commandant Hans Riekert with members of the South African Republican Police crossed into Bechuanaland, blew up a number of railway culverts near Mochudi and also raided cattle from the Bakgatla. The British Resident Commissioner at Mochudi, W.H. Surmon, also started to influence Linchwe's attitude of neutrality toward the Boers (Wulfsohn, 1987). One of the first results of this changing in attitudes at Mochudi was the Battle of Derdepoort (25 November 1899) when Bakgatla armed men attacked the Boer laager situated at Derdepoort. Subsequently, Bakgatla regiments were sent into the *Zuid-Afrikaansche Republiek* and they attacked Boer forces, farmhouses as well as Black groups believed to be assisting the Boer cause.

During the beginning of 1900 numerous Boer farms were still raided by Bakgatla groups to the north-west of Rustenburg. In February 1900 a Boer wagon convoy en route from Rustenburg to the Boer laager at Derdepoort was attacked by Linchwe's brother Ramono at Kayaseput. Six wagons fully laden with supplies were captured (Warwick, 1983). In reaction to this a number of Rustenburg residents such as W.T. Dawes, Auguste Schoch, J.S. Mundel and Philip Brink were ordered to establish a laager at the drift crossing over the Elands River (Wulfsohn, 1987). Subsequently, Commandant Petrus Steenekamp proceeded with a large commando to Derdepoort, and brought the Hex River Cornetcy of the Rustenburg commando back to a laager at Janskop, to the north-west of Pilanesberg. The civilian population of Derdepoort was brought into Rustenburg itself.

Although these measures must have stopped some of the activities of the armed Bakgatla groups, their attacks continued for the duration of the war. By the end of the war these groups were effectively in control of the whole area stretching from Rustenburg in the south to the present-day border between Botswana and South Africa in the north (Morton, 1985).

## **5.6. CONCLUSION**

The desktop study has revealed that the proposed development area contains some historically significant sites. These include the old farmhouse on Onderstepoort (present-day Mimosa), the old wagon road between Rustenburg and Saulspoort and the Boer laager on Frischgewaagd.

### **The old farmhouse**

At present it is not known whether the old farmhouse still exists. It is however important to note that many Boer farmhouses were destroyed during the war by British troops in accordance with the so-called 'scorched earth' policy while armed Bakgatla groups also attacked isolated farmhouses and destroyed them.

### **The old wagon road**

Again, it is not known whether the remains of the wagon road between Saulspoort and Rustenburg still exist. It seems likely however that the more recent road networks would have closely followed the layouts of the original wagon roads. This may mean that the contemporary main road to Sun City may in fact have been constructed over the old wagon road.

### **The Boer laager**

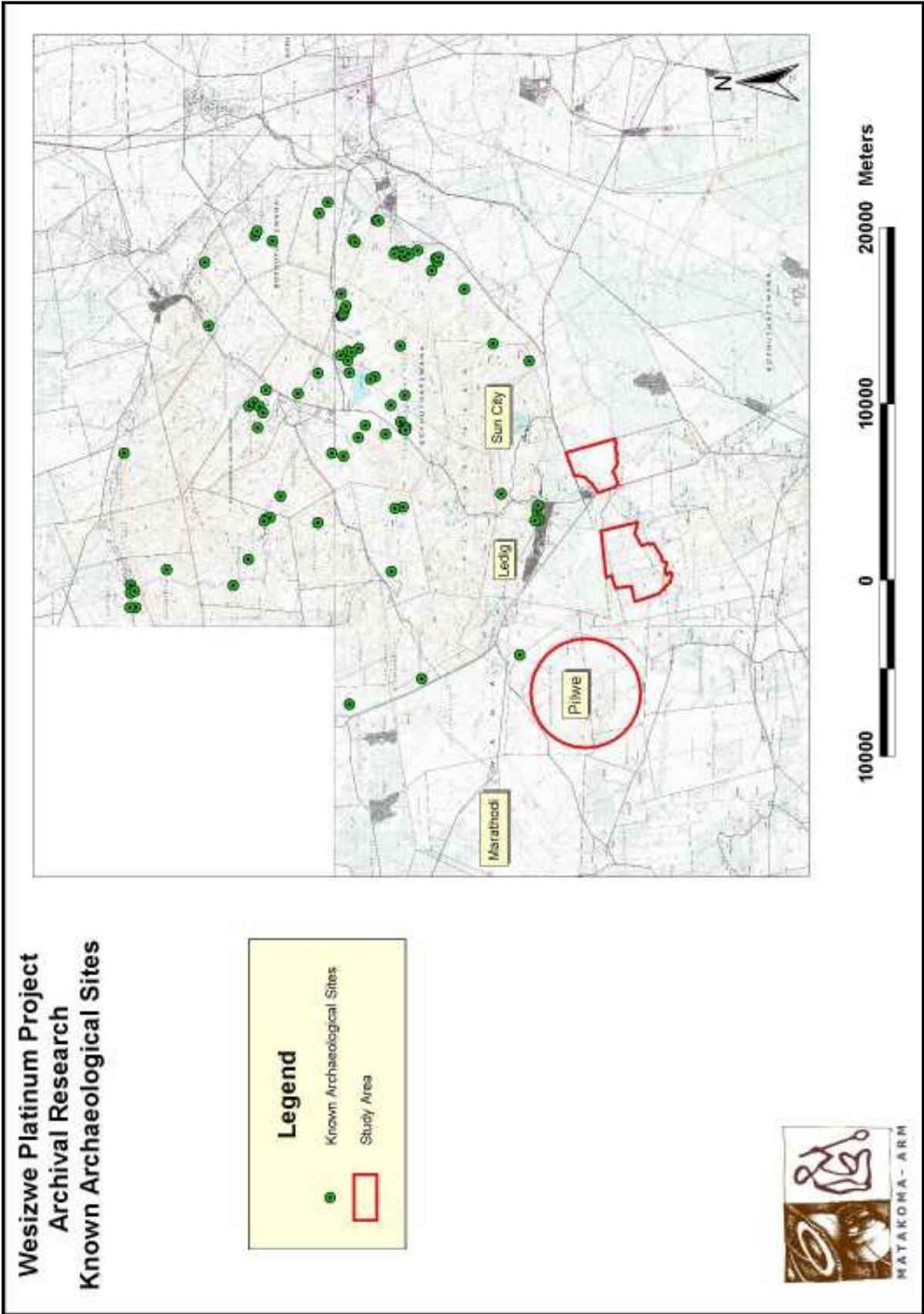
It is not presently known whether any remains of the laager on Frischgewaagd at the crossing over the Elands River still exists. The available information appears to indicate that the laager was used for only a small period of time. Furthermore, the present main road to Sun City may also have been constructed over - or in close proximity - to the old laager. Laagers such as this one were also not a unique feature of the South African War. In the direct surroundings a laager was established north-west of Pilanesberg at Janskop during this time while a significant Boer laager was established at Derdepoort on the present-day Botswana border.

## **5.7 ARCHAEOLOGICAL RESEARCH IN THE AREA**

Several Phase 1 AIA's were conducted around the study area for proposed developments in the past. Most of these were conducted by members of the National Cultural History Museum in Pretoria (A. Pelser personal communication). These surveys yielded Stone Age remains, little evidence of Iron Age communities and gong rocks.

Two Large Iron Age settlements occurred close to where Sun City is located but are largely destroyed by the developments. Although one of these sites have been excavated.

The Wits data base yielded no known sites within the proposed development area. However several archaeological sites exist in the Pilanesberg area and around Pilwe Mountain to the west of the study area.



• Figure 2: Archaeological sites around study area

## 5.8 Probability of occurrence of sites

From the above information it is clear that there is a high occurrence of cultural heritage sites in the area and that there is a high possibility of locating heritage sites within the study area.

### A. PALAEOLOGICAL LANDSCAPE

#### CONTEXT

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: *Low Probability*

### B. ARCHAEOLOGICAL LANDSCAPE

#### CONTEXT

**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.*

**Archaeological** remains dating to the following periods can be expected with in the study area:

ESA: *High Probability*

MSA: *High Probability*

LSA: *High Probability*

LSA –Herder: *Low Probability*

EIA: *Low Probability*

MIA: *High Probability*

LIA: *High Probability*

Historical period: *High Probability*

***Maritime history***

Shell middens: *Not applicable*

***Historical dumps: Medium Probability***

***Structural remains: Medium Probability***

***Objects including industrial machinery, aircraft and maritime objects: Low Probability***

***Ancient campsites, kraals and villages: Low Probability***

***Battle and military sites: High Probability***

***Burials over 100 years: High Probability***

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

## 6. SITES OF SIGNIFICANCE

The area is characterised by old agricultural fields and few bushes and shrubs exist on site, therefore ground visibility is high. Large parts of the study area consist of heavy turf soil and it is in this turf soil that many of the Iron Age Sites were found.

Is it possible to insert a summary table in here of all the sites, include, the site number, **Statement of Significance** (*Heritage Value*), **Field Rating** (*Recommended grading or field significance*) of the site, **Impact Evaluation** of development on site, *certainty and mitigation*.

*The certainty for all the sites has been rated as possible, can we change this to possible for 1,2,4 and 21 and probable for the others, your opinion please?*

### 6.1 2527AC-MHC001

<b>Description of Site:</b>				
<b>Site Number</b>	2527AC-MHC001			
<b>Map reference</b>	<b>Topo-sheet number</b>	<b>Number of Map in report</b>		
	<b>2527AC</b>	<b>Annexure B</b>		
<b>GPS coordinates:</b> <i>Indicate Model and datum - WGS 84</i>	X	Y		
Garmin ETrex, WGS 84	E27.08598699	S25.38302106		
<b>Site Data</b>	<b>Description</b>			
<b>Type of site</b> (e.g. open scatter; shell midden, cave /shelter);	Open scatter			
<b>Site categories</b> (e.g. Earlier Stone Age, Late Iron Age);	Iron Age			
<b>Context</b> (i.e. primary or secondary);	Primary			
<b>Cultural affinities, approximate age and significant features of the site;</b>	Evidence of Iron working in the form of slag was found scattered around the area, associated with undecorated ceramics			

<p><b>Estimation or measurement of the extent</b> (maximum dimensions) and orientation of the site(s);</p>	<p>The site is covered by turf soil and a road cutting exposed the cultural material. A positive estimation of site extent is not possible</p>
<p><b>Depth and stratification of the site</b> (where shovel test permits have been given), both in the text and through photographs of the sections;</p>	<p>None visible</p>
<p>Possible sources of information about past environments, such as stalactites/ stalagmites, flowstone, dassie middens, peat or organic rich deposits.</p>	<p>None</p>
<p><b>Photographs and diagrams</b> (Figure numbers)</p>	<div data-bbox="523 913 1420 1585" data-label="Image"> </div> <p>• Figure 3: Iron slag</p>

					
<p><b>Statement of Significance</b> (<i>Heritage Value</i>)</p>	<p>Although little evidence of an Iron Age settlement is visible on the surface the occurrence of metal working classifies the site as of <b>low to medium</b> heritage significance</p>				
<p><b>Field Rating</b> (<i>Recommended grading or field significance</i>) of the site:</p>	<p>Generally protected (GP.B)</p>				
<p><b>Impact Evaluation</b> of development on site</p>	<p>Impact on site is seen as high negative, through possible destruction of site</p>				
<p><b>Recommendations</b> including:</p>	<p>Shovel pit test to determine depth and integrity of archaeological deposit also to collect more diagnostic ceramics to positively establish group identity. Based on the findings further assessment of the site might be required</p>				
<p><b>Summary</b></p>					
<p><b>Field Rating</b></p>	<p><b>Impact</b></p>	<p><b>Impact Significance</b></p>	<p><b>Certainty</b></p>	<p><b>Duration</b></p>	<p><b>Mitigation</b></p>
<p>Grade GP.B</p>	<p>Negative</p>	<p>High</p>	<p>Probable</p>	<p>Long term</p>	<p>B</p>

• Figure 4: Undecorated ceramics

## 6.2 2527AD -MHC002

<b>Description of Site:</b>				
<b>Site Number</b>	2527AC-MHC002			
<b>Map reference</b>	<b>Topo-sheet number</b>	<b>Number of Map in report</b>		
	<b>2527AC</b>	<b>Annexure B</b>		
<b>GPS coordinates:</b> <i>Indicate Model and datum - WGS 84</i>	X	Y		
Garmin ETrex, WGS 84	E27.09022832	S25.38496030		
<b>Site Data</b>	<b>Description</b>			
<b>Type of site</b> (e.g. open scatter; shell midden, cave /shelter);	Open scatter			
<b>Site categories</b> (e.g. Earlier Stone Age, Late Iron Age);	Middle Iron Age, Madikwe ceramic facies together with possible Early Iron Age stone tools			
<b>Context</b> (i.e. primary or secondary);	Primary although cultural material is exposed in a disturbance caused by drilling machines as part of the proposed mine activities			
<b>Cultural affinities, approximate age and significant features of the site;</b>	Decorated and undecorated ceramics are scattered over a large area exposed by drilling activities. Decorated ceramics are characterised by incisions and bangle impressions. Material culture consists of lower grinding stones associated with maize grinding and hut <i>dagga</i> (a mixture of mud and dung used to plaster the walls of huts) with pole impressions. Early Stone Age tools lay scattered over the area on a low ridge. No stone walling is visible. Approximate age of the site is between 1350 AD and 1600 AD			
<b>Estimation or measurement of the extent</b> (maximum dimensions) and orientation of the site(s);	The site is covered by turf soil and drilling activities exposed the cultural material. A positive estimation of site extent is not possible			
<b>Depth and stratification of the site</b> (where shovel test permits have been given), both in the text and through photographs of the sections;	None visible			

<p><i>Possible sources of information about past environments, such as stalactites/ stalagmites, flowstone, dassie middens, peat or organic rich deposits.</i></p>	None
<p><b>Photographs and diagrams</b> (Figure numbers)</p>	 <p>• Figure 5: Broken Lower Grinding Stone</p>  <p>• Figure 6: Hut dagga and ceramics</p>



• Figure 7: General site conditions



• Figure 8: Possible ESA artefacts

**Statement of  
Significance** (*Heritage  
Value*)

The site is of **medium** heritage significance

<b>Field Rating</b> <i>(Recommended grading or field significance) of the site:</i>	Generally protected (GP.B)				
<b>Impact Evaluation</b> of development on site	Impact on site is seen as high negative, through possible destruction of site				
<b>Recommendations</b> including:	Iron Age aspect: Shovel pit test to determine depth and integrity of archaeological deposit of site. Test pit excavations will be aimed at identifying structures. Based on the findings further assessment of the site might be required. Stone Age component: An Early Stone Age specialist must assess the study area in particular the pebble layers that contain artefacts. New dating techniques could be used here.				
<b>Summary</b>					
<b>Field Rating</b>	<b>Impact</b>	<b>Impact Significance</b>	<b>Certainty</b>	<b>Duration</b>	<b>Mitigation</b>
Grade GP.B	Negative	High	Probable	Long term	B

## 6.3 2527AC-MHC003

<b>Description of Site:</b>				
<b>Site Number</b>	2527AC-MHC003			
<b>Map reference</b>	<b>Topo-sheet number</b>	<b>Number of Map in report</b>		
	<b>2527AC</b>	<b>Annexure B</b>		
<b>GPS coordinates:</b> Indicate Model and datum - WGS 84	X	Y		
Garmin ETrex, WGS 84	E27.09098160	S25.38475494		
<b>Site Data</b>	<b>Description</b>			
<b>Type of site</b> (e.g. open scatter; shell midden, cave /shelter);	Open scatter			
<b>Site categories</b> (e.g. Earlier Stone Age, Late Iron Age);	Iron Age			
<b>Context</b> (i.e. primary or secondary);	Primary			
<b>Cultural affinities, approximate age and significant features of the site;</b>	Hut remains in the form of <i>dagga</i> with pole impressions are exposed by sheet erosion. Undecorated ceramics are scattered over the site <i>in-situ</i> together with lower grinding stones, no stone walling is visible on the site. The site is characterised by a change in grass cover.			
<b>Estimation or measurement of the extent</b> (maximum dimensions) and orientation of the site(s);	The site is covered by turf soil and cultural material is exposed in a small area by sheet erosion. A positive estimation of site extent is not possible			
<b>Depth and stratification of the site</b> (where shovel test permits have been given), both in the text and through photographs of the sections;	None visible			
<b>Possible sources of information about past environments, such as stalactites/ stalagmites, flowstone, dassie middens, peat or organic rich deposits.</b>	None			
<b>Photographs and diagrams</b> (Figure numbers)				



• Figure 9: Hut dagga



• Figure 10: In situ ceramics

					
<b>Statement of Significance</b> ( <i>Heritage Value</i> )	The site is of <b>medium</b> heritage significance				
<b>Field Rating</b> ( <i>Recommended grading or field significance</i> ) of the site:	Generally protected (GP.B)				
<b>Impact Evaluation</b> of development on site	Impact on site is seen as low negative, no direct impact is foreseen on site				
<b>Recommendations</b> including:	If the site is impacted upon shovel pit test to determine depth and integrity of archaeological deposit of site. Test pit excavations will be aimed at identifying structures and collection of decorated ceramics to positively identify cultural group identity. Based on the findings further assessment of the site might be required				
<b>Summary</b>					
<b>Field Rating</b>	<b>Impact</b>	<b>Impact Significance</b>	<b>Certainty</b>	<b>Duration</b>	<b>Mitigation</b>
Grade GP.B	Negative	Low	Possible	Long term	B

## 6.4 2527AC-MHC004

<b>Description of Site:</b>				
<b>Site Number</b>	2527AC-MHC004			
<b>Map reference</b>	<b>Topo-sheet number</b>	<b>Number of Map in report</b>		
	<b>2527AC</b>	<b>Annexure B</b>		
<b>GPS coordinates:</b> <i>Indicate Model and datum - WGS 84</i>	X	Y		
Garmin ETrex, WGS 84	E27.08547184	S25.38541594		
<b>Site Data</b>	<b>Description</b>			
<b>Type of site</b> (e.g. open scatter; shell midden, cave /shelter);	Open scatter			
<b>Site categories</b> (e.g. Earlier Stone Age, Late Iron Age);	Possible Middle Iron Age			
<b>Context</b> (i.e. primary or secondary);	Primary			
<b>Cultural affinities, approximate age and significant features of the site;</b>	At least two stone circles interpreted as possible grain bin stands occur at this locality together with a low concentration of undecorated ceramics exposed by sheet erosion.			
<b>Estimation or measurement of the extent</b> (maximum dimensions) and orientation of the site(s);	The site is covered by turf soil and cultural material is exposed in a small area by sheet erosion. A positive estimation of site extent is not possible			
<b>Depth and stratification of the site</b> (where shovel test permits have been given), both in the text and through photographs of the sections;	None visible			
<b>Possible sources of information about past environments, such as stalactites/ stalagmites, flowstone, dassie middens, peat or organic rich deposits.</b>	None			
<b>Photographs and diagrams</b> (Figure numbers)				



• Figure 12: Possible grain bin stand



• Figure 13: Low scatter of ceramics

<p><b>Statement of Significance</b> (<i>Heritage Value</i>)</p>	<p>The site is preliminary classified as of <b>low</b> heritage significance due to little evidence on the surface of a Iron Age settlement, but the possibility could exist that the site is of medium significance if more archaeological deposit is present</p>
<p><b>Field Rating</b> (<i>Recommended grading or field significance</i>) of the site:</p>	<p>Generally protected (GP.A)</p>

<b>Impact Evaluation of development on site</b>	Impact on site is seen as high negative, through possible destruction of site				
<b>Recommendations including:</b>	Shovel pit test to determine depth and integrity of archaeological deposit of site. Test pit excavations will be aimed at identifying structures and collection of decorated ceramics to positively identify cultural group identity. Based on the findings further assessment of the site might be required				
<b>Summary</b>					
<b>Field Rating</b>	<b>Impact</b>	<b>Impact Significance</b>	<b>Certainty</b>	<b>Duration</b>	<b>Mitigation</b>
Grade GP.A	Negative	High	Probable	Long term	B

## 6.5 2527AC-MHC005

<b>Description of Site:</b>				
<b>Site Number</b>	2527AC-MHC005			
<b>Map reference</b>	<b>Topo-sheet number</b>	<b>Number of Map in report</b>		
	<b>2527AC</b>	<b>Annexure B</b>		
<b>GPS coordinates:</b> <i>Indicate Model and datum - WGS 84</i>	X	Y		
Garmin ETrex, WGS 84	E27.07267393	S25.38866661		
<b>Site Data</b>	<b>Description</b>			
<b>Type of site</b> (e.g. open scatter; shell midden, cave /shelter);	Open scatter			
<b>Site categories</b> (e.g. Earlier Stone Age, Late Iron Age);	Iron Age			
<b>Context</b> (i.e. primary or secondary);	Primary			
<i>Cultural affinities, approximate age and significant features of the site;</i>	This is the location of a low concentration of undecorated ceramics scattered along an erosion donga			
<b>Estimation or measurement of the extent</b> (maximum dimensions) and orientation of the site(s);	The site is covered by turf soil and cultural material is exposed in a small area by sheet erosion. A positive estimation of site extent is not possible			
<b>Depth and stratification of the site</b> (where shovel test permits have been given), both in the text and through photographs of the sections;	None visible			
<i>Possible sources of information about past environments, such as stalactites/ stalagmites, flowstone, dassie middens, peat or organic rich deposits.</i>	None			
<b>Photographs and diagrams</b> (Figure numbers)				

					
<b>Statement of Significance</b> ( <i>Heritage Value</i> )	The site is of <b>low</b> heritage significance due to the lack of visible archaeological deposit and little visible evidence of Iron Age settlement				
<b>Field Rating</b> <i>(Recommended grading or field significance) of the site:</i>	Generally protected (GP.A)				
<b>Impact Evaluation of development on site</b>	Impact on site is seen as low negative, no direct impact is foreseen on the site				
<b>Recommendations including:</b>	If the site is impacted upon it is recommended that an archaeologist monitor the site for further finds. Before destruction of the site a destruction permit must be applied for from SAHRA				
<b>Summary</b>					
<b>Field Rating</b>	<b>Impact</b>	<b>Impact Significance</b>	<b>Certainty</b>	<b>Duration</b>	<b>Mitigation</b>
Grade GP.A	Negative	Low	Possible	Long term	A

• Figure 14: Undecorated ceramics

## 6.6 2527AC-MHC006

<b>Description of Site:</b>				
<b>Site Number</b>	2527AC-MHC006			
<b>Map reference</b>	<b>Topo-sheet number</b>	<b>Number of Map in report</b>		
	<b>2527AC</b>	<b>Annexure B</b>		
<b>GPS coordinates:</b> <i>Indicate Model and datum - WGS 84</i>	X	Y		
Garmin ETrex, WGS 84	E27.02037656	S25.40394992		
<b>Site Data</b>	<b>Description</b>			
<b>Type of site</b> (e.g. open scatter; shell midden, cave /shelter);	Open scatter			
<b>Site categories</b> (e.g. Earlier Stone Age, Late Iron Age);	Middle Iron Age, preliminary classified as Madikwe ceramics			
<b>Context</b> (i.e. primary or secondary);	Primary although cultural material is exposed by road cutting, quarry and sheet erosion			
<b>Cultural affinities, approximate age and significant features of the site;</b>	Decorated and undecorated ceramics is scattered over a large area. Decorated ceramics is characterised by incisions and bangle impressions and dragged punctuates. Material culture consists of lower grinding stones associated with maize grinding and hut <i>dagga</i> with pole impressions. Possible deflated middens expose bone and ceramics. No stone walling is present. Approximate age of the site is between 1350 AD and 1600 AD. Large <i>aloes</i> with open spaces mark the extent of the site			
<b>Estimation or measurement of the extent</b> (maximum dimensions) and orientation of the site(s);	Cultural material is exposed over an extensive area at the base of a hill.			
<b>Depth and stratification of the site</b> (where shovel test permits have been given), both in the text and through photographs of the sections;	Although the archaeological deposit is rich in material the deposit is no more than between 5 and 10cm thick. A 5cm thick over burden is on top of the archaeological material, if this layer is removed by gravel road cutting or sheet erosion the archaeological material is exposed			
<b>Possible sources of information about past environments, such as stalactites/ stalagmites, flowstone, dassie middens, peat or organic rich deposits.</b>	None			

**Photographs  
and  
diagrams  
numbers)**

**and  
(Figure**



• Figure 15: In situ ceramics



• Figure 16: Decorated ceramics



• Figure 17: Gravel road that exposed ceramics



Figure 18: Quarry exposing archaeological material

<p><b>Statement of Significance</b> (<i>Heritage Value</i>)</p>	<p>The site is of <b>medium</b> heritage significance due to the amount of archaeological deposit and the extensiveness of the site</p>
<p><b>Field Rating</b> (<i>Recommended grading or field significance</i>) of the site:</p>	<p>Generally protected (GP.B)</p>

<b><i>Impact Evaluation of development on site</i></b>	Impact on site is seen as low negative, since no direct impact is foreseen on the site				
<b><i>Recommendations including:</i></b>	If the site is impacted upon full phase two mitigation is recommended for the site				
<b>Summary</b>					
<b>Field Rating</b>	<b>Impact</b>	<b>Impact Significance</b>	<b>Certainty</b>	<b>Duration</b>	<b>Mitigation</b>
Grade GP.B	Negative	Low	Possible	Long term	C

## 6.7 2527AC-MHC007

<b>Description of Site:</b>				
<b>Site Number</b>	2527AC-MHC007			
<b>Map reference</b>	<b>Topo-sheet number</b>	<b>Number of Map in report</b>		
	<b>2527AC</b>	<b>Annexure B</b>		
<b>GPS coordinates:</b> <i>Indicate Model and datum - WGS 84</i>	X	Y		
Garmin ETrex, WGS 84	E27.02417188	S25.40887864		
<b>Site Data</b>	<b>Description</b>			
<b>Type of site</b> (e.g. open scatter; shell midden, cave /shelter);	Open scatter			
<b>Site categories</b> (e.g. Earlier Stone Age, Late Iron Age);	Stone cairns			
<b>Context</b> (i.e. primary or secondary);	Primary			
<b>Cultural affinities, approximate age and significant features of the site;</b>	This is the location of 3 stone cairns that is roughly orientated east to west. The purpose of these cairns is unknown the possibility exists that these cairns could be graves. No other cultural material could be positively associated with the stone cairns			
<b>Estimation or measurement of the extent</b> (maximum dimensions) and orientation of the site(s);	Each cairn is approximately 1 meter wide and 1.5 meters in length			
<b>Depth and stratification of the site</b> (where shovel test permits have been given), both in the text and through photographs of the sections;	None			
<b>Possible sources of information about past environments, such as stalactites/ stalagmites, flowstone, dassie middens, peat or organic rich deposits.</b>	None			

**Photographs  
and  
diagrams  
numbers)**

**and  
(Figure  
numbers)**



• Figure 19: Stone cairn

					
<b>Statement of Significance</b> ( <i>Heritage Value</i> )	The site is of <b>high</b> heritage significance until it is proven that the stone cairns are not graves				
<b>Field Rating</b> <i>(Recommended grading or field significance) of the site:</i>	Generally protected (GP.A)				
<b>Impact Evaluation</b> of development on site	Impact on site is seen as low negative, since no direct impact is foreseen on the site				
<b>Recommendations</b> including:	If the site is impacted upon full phase two mitigation is recommended for the site				
<b>Summary</b>					
<b>Field Rating</b>	<b>Impact</b>	<b>Impact Significance</b>	<b>Certainty</b>	<b>Duration</b>	<b>Mitigation</b>
Grade GP.A	Negative	Low	Possible	Long term	C

## 6.8 2527AC-MHC008

<b>Description of Site:</b>				
<b>Site Number</b>	2527AC-MHC008			
<b>Map reference</b>	<b>Topo-sheet number</b>	<b>Number of Map in report</b>		
	<b>2527AC</b>	<b>Annexure B</b>		
<b>GPS coordinates:</b> <i>Indicate Model and datum - WGS 84</i>	X	Y		
Garmin ETrex, WGS 84	E27.02514444	S25.40885777		
<b>Site Data</b>	<b>Description</b>			
<b>Type of site</b> (e.g. open scatter; shell midden, cave /shelter);	Open scatter			
<b>Site categories</b> (e.g. Earlier Stone Age, Late Iron Age);	Middle Iron Age, preliminary classified as Madikwe ceramics			
<b>Context</b> (i.e. primary or secondary);	Primary			
<b>Cultural affinities, approximate age and significant features of the site;</b>	Decorated and undecorated ceramics are exposed by sheet erosion. Decorated ceramics are characterised by incisions. Material culture consists of lower grinding stones, slag and a possible ash midden. No stone walling is present. Approximate age of the site is between 1350 AD and 1600 AD. The site is characterised by <i>Cenchrus Ciliaris</i> –Buffelgrass.			
<b>Estimation or measurement of the extent</b> (maximum dimensions) and orientation of the site(s);	Cultural material is exposed over an area measuring 100 x 50 meters north south.			
<b>Depth and stratification of the site</b> (where shovel test permits have been given), both in the text and through photographs of the sections;	None			
<b>Possible sources of information about past environments, such as stalactites/ stalagmites, flowstone, dassie middens, peat or organic rich deposits.</b>	None			
<b>Photographs and diagrams</b> (Figure numbers)				



• Figure 21: Iron slag



• Figure 22: Broken Lower Grinding Stone



• Figure 23: Decorated and undecorated ceramics



Figure 24: General site conditions

<p><b>Statement of Significance</b> (<i>Heritage Value</i>)</p>	<p>The site is of <b>medium</b> heritage significance</p>
<p><b>Field Rating</b> (<i>Recommended grading or field significance</i>) of the site:</p>	<p>Generally protected (GP.B)</p>

<b><i>Impact Evaluation of development on site</i></b>	Impact on site is seen as low negative, since no direct impact is foreseen on site				
<b><i>Recommendations including:</i></b>	If the site is impacted upon full phase two mitigation is recommended for the site				
<b>Summary</b>					
<b>Field Rating</b>	<b>Impact</b>	<b>Impact Significance</b>	<b>Certainty</b>	<b>Duration</b>	<b>Mitigation</b>
Grade GP.B	Negative	Low	Possible	Long term	B

## 6.9 2527AC-MHC009

<b>Description of Site:</b>				
<b>Site Number</b>	2527AC-MHC009			
<b>Map reference</b>	<b>Topo-sheet number</b>	<b>Number of Map in report</b>		
	<b>2527AC</b>	<b>Annexure B</b>		
<b>GPS coordinates:</b> <i>Indicate Model and datum - WGS 84</i>	X	Y		
Garmin ETrex, WGS 84	E27.02774031	S25.41104771		
<b>Site Data</b>	<b>Description</b>			
<b>Type of site</b> (e.g. open scatter; shell midden, cave /shelter);	Open scatter			
<b>Site categories</b> (e.g. Earlier Stone Age, Late Iron Age);	Historic			
<b>Context</b> (i.e. primary or secondary);	Primary			
<b>Cultural affinities, approximate age and significant features of the site;</b>	This is the location of historic/recent structures. Different building techniques are used and modern rectangular structures are found together with a traditional circular hut. At least 4 structures are found in this location consisting of a large rectangular structure with stone foundations extended by sun dried clay, the structure measures approximately 20x10 meters. Three smaller structures constructed in a similar method are found spaced around the large structure. Cultural material consists of a lower grinding stone and a few undecorated ceramics. During the archival study no indication of structures in this location was detected and therefore no indication of age could be derived.			
<b>Estimation or measurement of the extent</b> (maximum dimensions) and orientation of the site(s);	Cultural material and foundations of structures are found over an area measuring 150 x 100 meters north south.			
<b>Depth and stratification of the site</b> (where shovel test permits have been given), both in the text and through photographs of the sections;	None			

<p><i>Possible sources of information about past environments, such as stalactites/ stalagmites, flowstone, dassie middens, peat or organic rich deposits.</i></p>	None
<p><b>Photographs and diagrams</b> (Figure numbers)</p>	 <ul style="list-style-type: none"><li>• Figure 25: Rectangular stone foundations</li></ul>

					
<b>Statement of Significance</b> ( <i>Heritage Value</i> )	The site is of <b>medium</b> heritage significance				
<b>Field Rating</b> <i>(Recommended grading or field significance) of the site:</i>	Generally protected (GP.B)				
<b>Impact Evaluation</b> of development on site	Impact on site is seen as low negative, since no direct impact is foreseen on the site				
<b>Recommendations</b> including:	If the site is impacted upon it is recommended that the structures are cleared and documented in the form of scale plan sketches				
<b>Summary</b>					
<b>Field Rating</b>	<b>Impact</b>	<b>Impact Significance</b>	<b>Certainty</b>	<b>Duration</b>	<b>Mitigation</b>
Grade GP.B	Negative	Low	Possible	Long term	B

• Figure 26: Broken Lower Grinding Stone

## 6.10 2527AC-MHC010

<b>Description of Site:</b>				
<b>Site Number</b>	2527AC-MHC010			
<b>Map reference</b>	<b>Topo-sheet number</b>	<b>Number of Map in report</b>		
	<b>2527AC</b>	<b>Annexure B</b>		
<b>GPS coordinates:</b> <i>Indicate Model and datum - WGS 84</i>	X	Y		
Garmin ETrex, WGS 84	E27.02755306	S25.41230877		
<b>Site Data</b>	<b>Description</b>			
<b>Type of site</b> (e.g. open scatter; shell midden, cave /shelter);	Open scatter			
<b>Site categories</b> (e.g. Earlier Stone Age, Late Iron Age);	Possible Late Iron Age,			
<b>Context</b> (i.e. primary or secondary);	Primary although cultural material is exposed by sheet erosion			
<b>Cultural affinities, approximate age and significant features of the site;</b>	This is the location of the foundations of a hut associated with undecorated ceramics and lower grinders. The structure is marked by a single row of upstanding stones. Associated with the structure is a possible grain bin.			
<b>Estimation or measurement of the extent</b> (maximum dimensions) and orientation of the site(s);	Cultural material is exposed over an area of at least 100x100 meters north to south.			
<b>Depth and stratification of the site</b> (where shovel test permits have been given), both in the text and through photographs of the sections;	None			
<b>Possible sources of information about past environments, such as stalactites/ stalagmites, flowstone, dassie middens, peat or organic rich deposits.</b>	None			
<b>Photographs and diagrams</b> (Figure numbers)				



• Figure 27: Stones marking hut



• Figure 28: Possible grain bin

**Statement of  
Significance** (*Heritage  
Value*)

The site is of **medium** heritage significance due to visible structures and deposit.

<b>Field Rating</b> <i>(Recommended grading or field significance) of the site:</i>	Generally protected (GP.B)				
<b>Impact Evaluation</b> of development on site	Impact on site is seen as low negative, since no direct impact is foreseen on the site				
<b>Recommendations</b> including:	If the site is impacted upon it is recommended that the structure is excavated and a ceramic sample is obtained to determine group identity				
<b>Summary</b>					
<b>Field Rating</b>	<b>Impact</b>	<b>Impact Significance</b>	<b>Certainty</b>	<b>Duration</b>	<b>Mitigation</b>
Grade GP.B	Negative	Low	Possible	Long term	B

## 6.11 2527AC-MHC011

<b>Description of Site:</b>				
<b>Site Number</b>	2527AC-MHC011			
<b>Map reference</b>	<b>Topo-sheet number</b>	<b>Number of Map in report</b>		
	<b>2527AC</b>	<b>Annexure B</b>		
<b>GPS coordinates:</b> <i>Indicate Model and datum - WGS 84</i>	X	Y		
Garmin ETrex, WGS 84	E27.02672124	S25.41109348		
<b>Site Data</b>	<b>Description</b>			
<b>Type of site</b> (e.g. open scatter; shell midden, cave /shelter);	Open scatter			
<b>Site categories</b> (e.g. Earlier Stone Age, Late Iron Age);	Possible Late Iron Age			
<b>Context</b> (i.e. primary or secondary);	Primary			
<b>Cultural affinities, approximate age and significant features of the site;</b>	A Low concentration of undecorated ceramics is scattered over a large area. Associated with the ceramics is several disturbed stone circles. The site might be associated with <b>MHC010</b>			
<b>Estimation or measurement of the extent</b> (maximum dimensions) and orientation of the site(s);	Cultural material is exposed over an area of at least 100x100 meters north to south			
<b>Depth and stratification of the site</b> (where shovel test permits have been given), both in the text and through photographs of the sections;	None			
<b>Possible sources of information about past environments, such as stalactites/ stalagmites, flowstone, dassie middens, peat or organic rich deposits.</b>	None			
<b>Photographs and diagrams</b> (Figure numbers)				

	 <p data-bbox="520 875 935 904">• Figure 29: Undecorated ceramics</p>				
<b>Statement of Significance</b> ( <i>Heritage Value</i> )	The site is of <b>low</b> heritage significance due to the amount of disturbance on the site				
<b>Field Rating</b> ( <i>Recommended grading or field significance</i> ) of the site:	Generally protected (GP.C)				
<b>Impact Evaluation</b> of development on site	Impact on site is seen as low negative, since no direct impact is foreseen on the site				
<b>Recommendations</b> including:	If the site is impacted upon it is recommended that an archaeologist monitor the site during construction				
<b>Summary</b>					
<b>Field Rating</b>	<b>Impact</b>	<b>Impact Significance</b>	<b>Certainty</b>	<b>Duration</b>	<b>Mitigation</b>
Grade GP.C	Negative	Low	Possible	Long term	A

## 6.12 2527AC-MHC012

<b>Description of Site:</b>				
<b>Site Number</b>	2527AC-MHC012			
<b>Map reference</b>	<b>Topo-sheet number</b>	<b>Number of Map in report</b>		
	<b>2527AC</b>	<b>Annexure B</b>		
<b>GPS coordinates:</b> <i>Indicate Model and datum - WGS 84</i>	X	Y		
Garmin ETrex, WGS 84	E27.02936271	S25.41538610		
<b>Site Data</b>	<b>Description</b>			
<b>Type of site</b> (e.g. open scatter; shell midden, cave /shelter);	Open scatter			
<b>Site categories</b> (e.g. Earlier Stone Age, Late Iron Age);	Iron Age			
<b>Context</b> (i.e. primary or secondary);	Primary			
<b>Cultural affinities, approximate age and significant features of the site;</b>	Decorated and undecorated ceramics is exposed by sheet erosion on turf soil close to the Elands River. Not enough decorated ceramics was sampled to accurately identify group identity. Material culture consists of upper grinding stones and ceramics. No stone walling is present. The site is characterised by <i>Buffel</i> grass cover.			
<b>Estimation or measurement of the extent</b> (maximum dimensions) and orientation of the site(s);	The site is covered by turf soil and a road cutting exposed the cultural material. A positive estimation of site extent is not possible			
<b>Depth and stratification of the site</b> (where shovel test permits have been given), both in the text and through photographs of the sections;	None			
<b>Possible sources of information about past environments, such as stalactites/ stalagmites, flowstone, dassie middens, peat or organic rich deposits.</b>	None			
<b>Photographs and diagrams</b> (Figure numbers)				



• Figure 30: General site conditions



• Figure 31: Undecorated ceramics

**Statement of Significance** (*Heritage Value*)

**Field Rating** (*Recommended grading or field significance*) of the site:

The site is of **medium** heritage significance because of the location of the site and the amount of cultural material

Generally protected (GP.B)

<b><i>Impact Evaluation of development on site</i></b>	Impact on site is seen as low negative, since no direct impact is foreseen on the site				
<b><i>Recommendations including:</i></b>	If the site is impacted upon it is recommended that the site is shovel pit tested to determine depth and integrity of the deposit also to collect more diagnostic ceramics to positively establish group identity. Based on the findings further assessment of the site might be required				
<b>Summary</b>					
<b>Field Rating</b>	<b>Impact</b>	<b>Impact Significance</b>	<b>Certainty</b>	<b>Duration</b>	<b>Mitigation</b>
Grade GP.B	Negative	Low	Possible	Long term	B

## 6.13 2527AC – MHC013

<b>Description of Site:</b>				
<b>Site Number</b>	2527AC-MHC013			
<b>Map reference</b>	<b>Topo-sheet number</b>	<b>Number of Map in report</b>		
	<b>2527AC</b>	<b>Annexure B</b>		
<b>GPS coordinates:</b> <i>Indicate Model and datum - WGS 84</i>	X	Y		
Garmin ETrex, WGS 84	E27.02333076	S25.41817660		
<b>Site Data</b>	<b>Description</b>			
<b>Type of site</b> (e.g. open scatter; shell midden, cave /shelter);	Open scatter			
<b>Site categories</b> (e.g. Earlier Stone Age, Late Iron Age);	Iron Age			
<b>Context</b> (i.e. primary or secondary);	Primary			
<b>Cultural affinities, approximate age and significant features of the site;</b>	Decorated and undecorated ceramics is exposed by a road cutting. Not enough decorated ceramics was sampled to accurately identify group identity. Material culture consists of upper grinding stones hut <i>dagga</i> . No stone walling is present. The site is characterised by <i>Buffel</i> grass cover.			
<b>Estimation or measurement of the extent</b> (maximum dimensions) and orientation of the site(s);	The site is covered by turf soil and a road cutting exposed the cultural material. A positive estimation of site extent is not possible			
<b>Depth and stratification of the site</b> (where shovel test permits have been given), both in the text and through photographs of the sections;	None			
<b>Possible sources of information about past environments, such as stalactites/ stalagmites, flowstone, dassie middens, peat or organic rich deposits.</b>	None			
<b>Photographs and diagrams</b> (Figure numbers)				



• Figure 32: Gravel road exposing archaeological material



• Figure 33: Hut dagga

<p><b>Statement of Significance</b> (<i>Heritage Value</i>)</p>	<p>The site is of <b>medium</b> heritage significance due to the amount of archaeological deposit</p>
<p><b>Field Rating</b> (<i>Recommended grading or field significance</i>) of the site:</p>	<p>Generally protected (GP.B)</p>
<p><b>Impact Evaluation</b> of development on site</p>	<p>Impact on site is seen as low negative, since no direct impact is foreseen on the site</p>

<b>Recommendations</b> <i>including:</i>	If the site is impacted upon it is recommended that the site is shovel pit tested to determine depth and integrity of the deposit also to collect more diagnostic ceramics to positively establish group identity excavations will also be aimed at identifying structures. Based on the findings further assessment of the site might be required				
<b>Summary</b>					
<b>Field Rating</b>	<b>Impact</b>	<b>Impact Significance</b>	<b>Certainty</b>	<b>Duration</b>	<b>Mitigation</b>
Grade GP.B	Negative	Low	Possible	Long term	B

## 6.14 2527AC-MHC014

<b>Description of Site:</b>				
<b>Site Number</b>	2527AC-MHC14			
<b>Map reference</b>	<b>Topo-sheet number</b>	<b>Number of Map in report</b>		
	<b>2527AC</b>	<b>Annexure B</b>		
<b>GPS coordinates:</b> <i>Indicate Model and datum - WGS 84</i>	X	Y		
Garmin ETrex, WGS 84	E27.02554383	S25.41759104		
<b>Site Data</b>	<b>Description</b>			
<b>Type of site</b> (e.g. open scatter; shell midden, cave /shelter);	Open scatter			
<b>Site categories</b> (e.g. Earlier Stone Age, Late Iron Age);	Stone cairn			
<b>Context</b> (i.e. primary or secondary);	Primary			
<b>Cultural affinities, approximate age and significant features of the site;</b>	This is the location of a stone cairn that is roughly orientated east to west. The purpose of the cairn is unknown but the possibility exists that this cairn could be an unmarked grave. No other cultural material could be positively associated with the stone cairn			
<b>Estimation or measurement of the extent</b> (maximum dimensions) and orientation of the site(s);	The stone cairn is approximately 80 cm wide and 1 meter in length			
<b>Depth and stratification of the site</b> (where shovel test permits have been given), both in the text and through photographs of the sections;	None			
<b>Possible sources of information about past environments, such as stalactites/ stalagmites, flowstone, dassie middens, peat or organic rich deposits.</b>	None			
<b>Photographs and diagrams</b> (Figure numbers)				

	 <p data-bbox="520 875 807 904">• Figure 34: Stone Cairn</p>				
<b>Statement of Significance</b> ( <i>Heritage Value</i> )	The site is of <b>high</b> heritage significance until it is proven that the stone cairn is not a grave				
<b>Field Rating</b> <i>(Recommended grading or field significance) of the site:</i>	Generally protected (GP.A)				
<b>Impact Evaluation</b> of development on site	Impact on site is seen as low negative, since no direct impact is foreseen on the site				
<b>Recommendations</b> including:	If the site is impacted upon full phase two mitigation is recommended for the site				
<b>Summary</b>					
<b>Field Rating</b>	<b>Impact</b>	<b>Impact Significance</b>	<b>Certainty</b>	<b>Duration</b>	<b>Mitigation</b>
Grade GP.A	Negative	Low	Possible	Long term	C

## 6.15 2527AC-MHC015

<b>Description of Site:</b>				
<b>Site Number</b>	2527AC-MHC015			
<b>Map reference</b>	<b>Topo-sheet number</b>	<b>Number of Map in report</b>		
	<b>2527AC</b>	<b>Annexure B</b>		
<b>GPS coordinates:</b> <i>Indicate Model and datum - WGS 84</i>	X	Y		
Garmin ETrex, WGS 84	E27.02998239	S25.41319801		
<b>Site Data</b>	<b>Description</b>			
<b>Type of site</b> (e.g. open scatter; shell midden, cave /shelter);	Open scatter			
<b>Site categories</b> (e.g. Earlier Stone Age, Late Iron Age);	Iron Age			
<b>Context</b> (i.e. primary or secondary);	Primary			
<b>Cultural affinities, approximate age and significant features of the site;</b>	This is the location of a family unit consisting of 5 huts with verandas, a grain bin hut and at least 2 cooking huts. The structures are marked by single upright standing stones. No other stone walling is present on site. The sight might be associated with sites <b>MHC009</b> and <b>MHC010</b> . No decorated ceramics were found. Associated with the site is hut <i>dagga</i> remains and a concentration of undecorated ceramics scattered over an extensive area.			
<b>Estimation or measurement of the extent</b> (maximum dimensions) and orientation of the site(s);	Cultural material is exposed over an extensive area of at least 200 x 300 meters			
<b>Depth and stratification of the site</b> (where shovel test permits have been given), both in the text and through photographs of the sections;	None			
<b>Possible sources of information about past environments, such as stalactites/ stalagmites, flowstone, dassie middens, peat or organic rich deposits.</b>	None			

**Photographs  
and  
diagrams**  
(Figure  
numbers)



• Figure 35: Stones marking a hut



• Figure 36: Hut with entrance facing east

**Statement of  
Significance** (*Heritage  
Value*)

The site is of **medium** heritage significance because it is so well preserved with the possibility of archaeological deposit

<b>Field Rating</b> <i>(Recommended grading or field significance) of the site:</i>	Generally protected (GP.B)				
<b>Impact Evaluation</b> of development on site	Impact on site is seen as low negative, since no direct impact is foreseen on the site				
<b>Recommendations</b> including:	If the site is impacted upon full phase two mitigation is recommended for the site				
<b>Summary</b>					
<b>Field Rating</b>	<b>Impact</b>	<b>Impact Significance</b>	<b>Certainty</b>	<b>Duration</b>	<b>Mitigation</b>
Grade GP.B	Negative	Low	Possible	Long term	B

## 6.16 2527AC-MHC016

<b>Description of Site:</b>				
<b>Site Number</b>	2527AC-MHC16			
<b>Map reference</b>	<b>Topo-sheet number</b>	<b>Number of Map in report</b>		
	<b>2527AC</b>	<b>Annexure B</b>		
<b>GPS coordinates:</b> <i>Indicate Model and datum - WGS 84</i>	X	Y		
Garmin ETrex, WGS 84	E27.03023175	S25.41628917		
<b>Site Data</b>	<b>Description</b>			
<b>Type of site</b> (e.g. open scatter; shell midden, cave /shelter);	Open scatter			
<b>Site categories</b> (e.g. Earlier Stone Age, Late Iron Age);	Stone cairn			
<b>Context</b> (i.e. primary or secondary);	Primary			
<b>Cultural affinities, approximate age and significant features of the site;</b>	This is the location of 3 stone cairns. The purpose of these cairns is unknown but the possibility exists that these stone cairns could be unmarked graves. No other cultural material could be positively associated with these stone cairns			
<b>Estimation or measurement of the extent</b> (maximum dimensions) and orientation of the site(s);	The stone cairns is approximately 80 cm wide and 1 meter in length			
<b>Depth and stratification of the site</b> (where shovel test permits have been given), both in the text and through photographs of the sections;	None			
<b>Possible sources of information about past environments, such as stalactites/ stalagmites, flowstone, dassie middens, peat or organic rich deposits.</b>	None			
<b>Photographs and diagrams</b> (Figure numbers)				

	 <p data-bbox="512 869 1428 936">• Figure 37: Stone Cairn</p>				
<b>Statement of Significance</b> ( <i>Heritage Value</i> )	The site is of <b>high</b> heritage significance until it is proven that the stone cairn is not a grave				
<b>Field Rating</b> ( <i>Recommended grading or field significance</i> ) of the site:	Generally protected (GP.A)				
<b>Impact Evaluation</b> of development on site	Impact on site is seen as low negative, since no direct impact is foreseen on the site				
<b>Recommendations</b> including:	If the site is impacted upon full phase two mitigation is recommended for the site				
<b>Summary</b>					
<b>Field Rating</b>	<b>Impact</b>	<b>Impact Significance</b>	<b>Certainty</b>	<b>Duration</b>	<b>Mitigation</b>
Grade GP.A	Negative	Low	Possible	Long term	C

## 6.17 2527AC-MHC017

<b>Description of Site:</b>				
<b>Site Number</b>	2527AC-MHC017			
<b>Map reference</b>	<b>Topo-sheet number</b>	<b>Number of Map in report</b>		
	<b>2527AC</b>	<b>Annexure B</b>		
<b>GPS coordinates:</b> <i>Indicate Model and datum - WGS 84</i>	X	Y		
Garmin 38, WGS 84	E27.07219315	S25.38258604		
<b>Site Data</b>	<b>Description</b>			
<b>Type of site</b> (e.g. open scatter; shell midden, cave /shelter);	Cemetery			
<b>Site categories</b> (e.g. Earlier Stone Age, Late Iron Age);	Modern			
<b>Context</b> (i.e. primary or secondary);	Primary			
<b>Cultural affinities, approximate age and significant features of the site;</b>	This is a large cemetery with at least 90 graves that is orientated east to west. Grave dressings consist of stone packed as well as granite slabs. The earliest visible date 1992.			
<b>Estimation or measurement of the extent</b> (maximum dimensions) and orientation of the site(s);				
<b>Depth and stratification of the site</b> (where shovel test permits have been given), both in the text and through photographs of the sections;	None visible			
<b>Possible sources of information about past environments, such as stalactites/ stalagmites, flowstone, dassic middens, peat or organic rich deposits.</b>	None			

<p><b>Photographs and diagrams</b> (Figure numbers)</p>	 <p>• Figure 38: Cemetery</p>				
<p><b>Statement of Significance</b> (<i>Heritage Value</i>)</p>	<p>The site is of <b>high</b> heritage significance</p>				
<p><b>Field Rating</b> (<i>Recommended grading or field significance</i>) of the site:</p>	<p>Generally protected (GP.A)</p>				
<p><b>Impact Evaluation of development on site</b></p>	<p>Impact on site is seen as low negative, since no direct impact is foreseen on the site</p>				
<p><b>Recommendations including:</b></p>	<p>It is recommended that the site be preserved and fenced of with an access gate for family members. If this is not possible extensive mitigation will be needed on this site..</p>				
<p><b>Summary</b></p>					
<p><b>Field Rating</b></p>	<p><b>Impact</b></p>	<p><b>Impact Significance</b></p>	<p><b>Certainty</b></p>	<p><b>Duration</b></p>	<p><b>Mitigation</b></p>
<p>Grade GP.A</p>	<p>Negative</p>	<p>Low</p>	<p>Possible</p>	<p>Long term</p>	<p>C</p>

## 6.18 2527AC-MHC018

<b>Description of Site:</b>				
<b>Site Number</b>	2527AC-MHC018			
<b>Map reference</b>	<b>Topo-sheet number</b>	<b>Number of Map in report</b>		
	<b>2527AC</b>	<b>Annexure B</b>		
<b>GPS coordinates:</b> Indicate Model and datum - WGS 84	X	Y		
Garmin ETrex, WGS 84	E27.08685402	S25.37059983		
<b>Site Data</b>	<b>Description</b>			
<b>Type of site</b> (e.g. open scatter; shell midden, cave /shelter);	Open scatter			
<b>Site categories</b> (e.g. Earlier Stone Age, Late Iron Age);	Middle Iron Age, preliminary classified as Madikwe ceramics			
<b>Context</b> (i.e. primary or secondary);	Primary although the site may have been ploughed in historic times			
<b>Cultural affinities, approximate age and significant features of the site;</b>	Decorated and undecorated ceramics are exposed by sheet erosion. Decorated ceramics are characterised by fingernail impressions, bangle impressions and incisions. Material culture consists of lower grinding stones, ceramics and hut <i>dagga</i> . No stone walling is present. Approximate age of the site is between 1350 AD and 1600 AD. The site is characterised by <i>Buffelgrass</i> cover			
<b>Estimation or measurement of the extent</b> (maximum dimensions) and orientation of the site(s);	Cultural material is exposed over an area measuring 200 x 100 meters north south.			
<b>Depth and stratification of the site</b> (where shovel test permits have been given), both in the text and through photographs of the sections;	None			
<b>Possible sources of information about past environments, such as stalactites/ stalagmites, flowstone, dassie middens, peat or organic rich deposits.</b>	None			

**Photographs  
and  
diagrams  
numbers)**

**and  
(Figure**



• Figure 39: Decorated Ceramics



• Figure 40: General site conditions

**Statement of  
Significance (Heritage  
Value)**

Because of the large area in which the cultural material is found and the high amount of decorated ceramics the site is given a **medium** heritage significance

<b>Field Rating</b> <i>(Recommended grading or field significance) of the site:</i>	Generally protected (GP.B)				
<b>Impact Evaluation</b> of development on site	Impact on site is seen as low negative, since no direct impact is foreseen on the site				
<b>Recommendations</b> including:	If the site is impacted upon it is recommended that shovel pit testing is conducted on the site to determine depth and integrity of deposit and also to collect more diagnostic ceramics to positively establish group identity. Based on the findings further assessment of the site might be required				
<b>Summary</b>					
<b>Field Rating</b>	<b>Impact</b>	<b>Impact Significance</b>	<b>Certainty</b>	<b>Duration</b>	<b>Mitigation</b>
Grade GP.B	Negative	Low	Possible	Long term	B

## 6.19 2527AC-MHC019

<b>Description of Site:</b>				
<b>Site Number</b>	2527AC-MHC019			
<b>Map reference</b>	<b>Topo-sheet number</b>	<b>Number of Map in report</b>		
	<b>2527AC</b>	<b>Annexure B</b>		
<b>GPS coordinates:</b> <i>Indicate Model and datum - WGS 84</i>	X	Y		
Garmin ETrex, WGS 84	E27.08783470	S25.37269296		
<b>Site Data</b>	<b>Description</b>			
<b>Type of site</b> (e.g. open scatter; shell midden, cave /shelter);	Open scatter			
<b>Site categories</b> (e.g. Earlier Stone Age, Late Iron Age);	Iron Age			
<b>Context</b> (i.e. primary or secondary);	Primary although a road cutting exposed the ceramics			
<b>Cultural affinities, approximate age and significant features of the site;</b>	A low concentration of undecorated ceramics is exposed by a dirt road. The site is characterised by <i>Buffel</i> grass cover.			
<b>Estimation or measurement of the extent</b> (maximum dimensions) and orientation of the site(s);	The site is covered by turf soil and a road cutting exposed the cultural material. A positive estimation of site extent is not possible.			
<b>Depth and stratification of the site</b> (where shovel test permits have been given), both in the text and through photographs of the sections;	None			
<b>Possible sources of information about past environments, such as stalactites/ stalagmites, flowstone, dassie middens, peat or organic rich deposits.</b>	None			

**Photographs and diagrams**  
(Figure numbers)



• Figure 41: Dirt road that exposed ceramics



• Figure 42: Undecorated ceramics

**Statement of Significance** (*Heritage Value*)

The site is of **low** heritage significance due to the low visibility of cultural material

**Field Rating**  
(*Recommended grading or field significance*) of the site:

Generally protected (GP.C)

<b><i>Impact Evaluation of development on site</i></b>	Impact on site is seen as low negative, since no direct impact is foreseen on the site				
<b><i>Recommendations including:</i></b>	If the site is impacted on it is recommended that an archaeologist monitor the site during construction to mitigate accidental finds.				
<b>Summary</b>					
<b>Field Rating</b>	<b>Impact</b>	<b>Impact Significance</b>	<b>Certainty</b>	<b>Duration</b>	<b>Mitigation</b>
Grade GP.C	Negative	Low	Possible	Long term	A

## 6.20 2527AC-MHC020

<b>Description of Site:</b>				
<b>Site Number</b>	2527AC-MHC020			
<b>Map reference</b>	<b>Topo-sheet number</b>	<b>Number of Map in report</b>		
	<b>2527AC</b>	<b>Annexure B</b>		
<b>GPS coordinates:</b> <i>Indicate Model and datum - WGS 84</i>	X	Y		
Garmin ETrex, WGS 84	E27.08669795	S25.37286211		
<b>Site Data</b>	<b>Description</b>			
<b>Type of site</b> (e.g. open scatter; shell midden, cave /shelter);	Open scatter			
<b>Site categories</b> (e.g. Earlier Stone Age, Late Iron Age);	Iron Age			
<b>Context</b> (i.e. primary or secondary);	Primary although road cutting exposed ceramics			
<b>Cultural affinities, approximate age and significant features of the site;</b>	Decorated and undecorated ceramics are exposed by a road cutting. Not enough decorated ceramics were sampled to accurately identify group identity. Material culture consists of upper and lower grinding stones together with hut <i>dagga</i> . No stone walling is present. The site is characterised by <i>Cenchrus Ciliaris</i> grass cover.			
<b>Estimation or measurement of the extent</b> (maximum dimensions) and orientation of the site(s);	The site is covered by turf soil and a road cutting exposed the cultural material. A positive estimation of site extent is not possible			
<b>Depth and stratification of the site</b> (where shovel test permits have been given), both in the text and through photographs of the sections;	None			
<b>Possible sources of information about past environments, such as stalactites/ stalagmites, flowstone, dassie middens, peat or organic rich deposits.</b>	None			
<b>Photographs and diagrams</b> (Figure numbers)				



• Figure 43: Broken Lower Grinder



Figure 44: Hut dagga

**Statement of Significance** (*Heritage Value*)

The site is of **medium** heritage significance due to the amount of cultural material on the surface and evidence of structures in the form of hut dagga

**Field Rating** (*Recommended grading or field significance*) of the site:

Generally protected (GP.B)

<b>Impact Evaluation of development on site</b>	Impact on site is seen as low negative, since no direct impact is foreseen on the site				
<b>Recommendations including:</b>	If the site is impacted upon it is recommended that the site is shovel pit tested to determine depth and integrity of the deposit and also to collect more diagnostic ceramics to positively establish group identity, excavations will also be aimed at identifying structures. Based on the findings further assessment of the site might be required				
<b>Summary</b>					
<b>Field Rating</b>	<b>Impact</b>	<b>Impact Significance</b>	<b>Certainty</b>	<b>Duration</b>	<b>Mitigation</b>
Grade GP.B	Negative	Low	Possible	Long term	B

## 6.21 2527AC-MHC021

<b>Description of Site:</b>				
<b>Site Number</b>	2527AC-MHC021			
<b>Map reference</b>	<b>Topo-sheet number</b>	<b>Number of Map in report</b>		
	<b>2527AC</b>	<b>Annexure B</b>		
<b>GPS coordinates:</b> <i>Indicate Model and datum - WGS 84</i>	X	Y		
Garmin ETrex, WGS 84	E27.08400283	S25.37462608		
<b>Site Data</b>	<b>Description</b>			
<b>Type of site</b> (e.g. open scatter; shell midden, cave /shelter);	Open scatter			
<b>Site categories</b> (e.g. Earlier Stone Age, Late Iron Age);	Stone cairn			
<b>Context</b> (i.e. primary or secondary);	Primary			
<b>Cultural affinities, approximate age and significant features of the site;</b>	This is the location of a stone cairn. The purpose of the stone cairn is unknown but the possibility exists that this stone cairn could be an unmarked grave. No other cultural material could be positively associated with these stone cairns			
<b>Estimation or measurement of the extent</b> (maximum dimensions) and orientation of the site(s);	The stone cairn is approximately 1.5 meters wide and 2 meter in length			
<b>Depth and stratification of the site</b> (where shovel test permits have been given), both in the text and through photographs of the sections;	None			
<b>Possible sources of information about past environments, such as stalactites/ stalagmites, flowstone, dassie middens, peat or organic rich deposits.</b>	None			
<b>Photographs and diagrams</b> (Figure numbers)				

					
	<p>• Figure 45: Stone Cairn</p>				
<p><b>Statement of Significance</b> (<i>Heritage Value</i>)</p>	<p>The site is of <b>high</b> heritage significance until it is proven that the stone cairn is not a grave</p>				
<p><b>Field Rating</b> (<i>Recommended grading or field significance</i>) of the site:</p>	<p>Generally protected (GP.A)</p>				
<p><b>Impact Evaluation</b> of development on site</p>	<p>Impact on site is seen as <b>medium</b> negative, since the site is located on the periphery of the footprint of the mine</p>				
<p><b>Recommendations</b> including:</p>	<p>It is recommended that the site is preserved and fenced off to protect the site during construction. If this is not possible within the mining plan it must be established if this is an unmarked grave. If this is the case the issue then needs to be addressed to comply with all the relevant legislation.</p>				
<p><b>Summary</b></p>					
<p><b>Field Rating</b></p>	<p><b>Impact</b></p>	<p><b>Impact Significance</b></p>	<p><b>Certainty</b></p>	<p><b>Duration</b></p>	<p><b>Mitigation</b></p>
<p>Grade GP.A</p>	<p>Negative</p>	<p>Medium</p>	<p>Probable</p>	<p>Long term</p>	<p>C</p>

## 6.22 2527AC-MHC022

<b>Description of Site:</b>				
<b>Site Number</b>	2527AC-MHC022			
<b>Map reference</b>	<b>Topo-sheet number</b>	<b>Number of Map in report</b>		
	<b>2527AC</b>	<b>Annexure B</b>		
<b>GPS coordinates:</b> <i>Indicate Model and datum - WGS 84</i>	X	Y		
Garmin ETrex, WGS 84	E27.09044726	S25.37720494		
<b>Site Data</b>	<b>Description</b>			
<b>Type of site</b> (e.g. open scatter; shell midden, cave /shelter);	Open scatter			
<b>Site categories</b> (e.g. Earlier Stone Age, Late Iron Age);	Iron Age			
<b>Context</b> (i.e. primary or secondary);	Primary			
<b>Cultural affinities, approximate age and significant features of the site;</b>	Undecorated ceramics are exposed by sheet erosion. Since no decorated ceramics were sampled it is impossible to accurately identify group identity. Material culture consists of a broken lower grinding stone and undecorated ceramics. No stone walling is present.			
<b>Estimation or measurement of the extent</b> (maximum dimensions) and orientation of the site(s);	The site is covered by turf soil and sheet erosion exposed the cultural material. A positive estimation of site extent is not possible			
<b>Depth and stratification of the site</b> (where shovel test permits have been given), both in the text and through photographs of the sections;	None			
<b>Possible sources of information about past environments, such as stalactites/ stalagmites, flowstone, dassie middens, peat or organic rich deposits.</b>	None			
<b>Photographs and diagrams</b> (Figure numbers)				

	 <p data-bbox="512 875 1428 965">• Figure 46: Broken Lower Grinding Stone</p>				
<b>Statement of Significance</b> ( <i>Heritage Value</i> )	The site is of <b>low</b> heritage significance due to the low density of archaeological material visible on the surface				
<b>Field Rating</b> <i>(Recommended grading or field significance) of the site:</i>	Generally protected (GP.C)				
<b>Impact Evaluation</b> of development on site	Impact on site is seen as low negative, since no direct impact is foreseen on the site				
<b>Recommendations</b> including:	If the site is impacted upon it is recommended that the site is monitored during construction by an archaeologist to mitigate accidental finds				
<b>Summary</b>					
<b>Field Rating</b>	<b>Impact</b>	<b>Impact Significance</b>	<b>Certainty</b>	<b>Duration</b>	<b>Mitigation</b>
Grade GP.C	Negative	Low	Possible	Long term	A

## 6.23 2527AC-MHC023

<b>Description of Site:</b>				
<b>Site Number</b>	2527AC-MHC022			
<b>Map reference</b>	<b>Topo-sheet number</b>	<b>Number of Map in report</b>		
	<b>2527AC</b>	<b>Annexure B</b>		
<b>GPS coordinates:</b> <i>Indicate Model and datum - WGS 84</i>	X	Y		
Garmin ETrex, WGS 84	E27.05208027	S25.39691121		
<b>Site Data</b>	<b>Description</b>			
<b>Type of site</b> (e.g. open scatter; shell midden, cave /shelter);	Open scatter			
<b>Site categories</b> (e.g. Earlier Stone Age, Late Iron Age);	Iron Age			
<b>Context</b> (i.e. primary or secondary);	Primary			
<b>Cultural affinities, approximate age and significant features of the site;</b>	Undecorated ceramics are exposed by sheet erosion. Since no decorated ceramics were sampled it is impossible to accurately identify group identity. Material culture consists of a broken lower grinding stone and undecorated ceramics. No stone walling is present.			
<b>Estimation or measurement of the extent</b> (maximum dimensions) and orientation of the site(s);	The site is covered by turf soil and sheet erosion exposed the cultural material. A positive estimation of site extent is not possible			
<b>Depth and stratification of the site</b> (where shovel test permits have been given), both in the text and through photographs of the sections;	None			
<b>Possible sources of information about past environments, such as stalactites/ stalagmites, flowstone, dassie middens, peat or organic rich deposits.</b>	None			
<b>Photographs and diagrams</b> (Figure numbers)				



• Figure 47: Broken Lower Grinder



• Figure 48: Undecorated ceramics

<p><b>Statement of Significance</b> (<i>Heritage Value</i>)</p>	<p>The site is of <b>low</b> heritage significance due to the low density of archaeological material visible on the surface</p>
<p><b>Field Rating</b> (<i>Recommended grading or field significance</i>) of the site:</p>	<p>Generally protected (GP.C)</p>
<p><b>Impact Evaluation</b> of development on site</p>	<p>Impact on site is seen as low negative, since no direct impact is foreseen on the site</p>

<b>Recommendations including:</b>	If the site is impacted upon it is recommended that the site is monitored during construction by an archaeologist to mitigate accidental finds				
<b>Summary</b>					
<b>Field Rating</b>	<b>Impact</b>	<b>Impact Significance</b>	<b>Certainty</b>	<b>Duration</b>	<b>Mitigation</b>
Grade GP.C	Negative	Low	Possible	Long term	A

## 6.24 2527AC-MHC024

<b>Description of Site:</b>				
<b>Site Number</b>	2527AC-MHC024			
<b>Map reference</b>	<b>Topo-sheet number</b>	<b>Number of Map in report</b>		
	<b>2527AC</b>	<b>Annexure B</b>		
<b>GPS coordinates:</b> <i>Indicate Model and datum - WGS 84</i>	X	Y		
Garmin 38, WGS 84	E27.01261969	S25.40150592		
<b>Site Data</b>	<b>Description</b>			
<b>Type of site</b> (e.g. open scatter; shell midden, cave /shelter);	Cemetery			
<b>Site categories</b> (e.g. Earlier Stone Age, Late Iron Age);	Modern			
<b>Context</b> (i.e. primary or secondary);	Primary			
<b>Cultural affinities, approximate age and significant features of the site;</b>	This is a large cemetery with an unknown number of graves that are orientated east to west. Grave dressings consist of stone packed as well as granite slabs.			
<b>Estimation or measurement of the extent</b> (maximum dimensions) and orientation of the site(s);	200 meter x 200 meter			
<b>Depth and stratification of the site</b> (where shovel test permits have been given), both in the text and through photographs of the sections;	None visible			
<b>Possible sources of information about past environments, such as stalactites/ stalagmites, flowstone, dassie middens, peat or organic rich deposits.</b>	None			

<p><b>Photographs and diagrams</b> (Figure numbers)</p>	 <p>• Figure 49: Cemetery</p>				
<p><b>Statement of Significance</b> (<i>Heritage Value</i>)</p>	<p>The site is of <b>high</b> heritage significance</p>				
<p><b>Field Rating</b> (<i>Recommended grading or field significance</i>) of the site:</p>	<p>Generally protected (GP.C)</p>				
<p><b>Impact Evaluation of development on site</b></p>	<p>Impact on site is seen as low negative, since no direct impact is foreseen on the site</p>				
<p><b>Recommendations including:</b></p>	<p>It is recommended that the site be preserved and fenced off with an access gate for family members. If this is not possible extensive mitigation will be needed on this site.</p>				
<p><b>Summary</b></p>					
<p><b>Field Rating</b></p>	<p><b>Impact</b></p>	<p><b>Impact Significance</b></p>	<p><b>Certainty</b></p>	<p><b>Duration</b></p>	<p><b>Mitigation</b></p>
<p>Grade GP.C</p>	<p>Negative</p>	<p>Low</p>	<p>Possible</p>	<p>Long term</p>	<p>A</p>

## 7. ASSUMPTIONS AND LIMITATIONS

Due to the nature of cultural remains that occur, in most cases, below surface, the possibility remains that some cultural remains may not have been discovered during the survey. Although MATAKOMA-ARM surveyed the area as thoroughly as possible, it is incumbent upon the developer to inform the relevant heritage agency should further cultural remains be unearthed or laid open during the process of development.

## 8. LEGAL AND POLICY REQUIREMENTS

In areas where there has not yet been a systematic survey to identify conservation worthy places, a permit is required to alter or demolish any structure older than 60 years. This will apply until a survey has been done and identified heritage resources are formally protected.

Archaeological and palaeontological sites, materials, and meteorites are the source of our understanding of the evolution of the earth, life on earth and the history of people. In the new legislation, permits are required to damage, destroy, alter, or disturb them. People who already possess material are required to register it.

The management of heritage resources are integrated with environmental resources and this means that before development takes place heritage resources are assessed and, if necessary, rescued.

In addition to the formal protection of culturally significant graves, all graves, which are older than 60 years and are not in a cemetery (such as ancestral graves in rural areas), are protected. The legislation protects the interests of communities that have interest in the graves: they may be consulted before any disturbance takes place.

The graves of victims of conflict and those associated with the liberation struggle will be identified, cared for, protected and memorials erected in their honour.

Anyone who intends to undertake a development must notify the heritage resource authority and if there is reason to believe that heritage resources will be affected, an impact assessment report must be compiled at the developer's cost. Thus, developers will be able to proceed without uncertainty that work will have to be stopped if a heritage resource is discovered.

According to the National Heritage Act (Act 25 of 1999 section 32) it is stated that:

An object or collection of objects, or a type of object or a list of objects, whether specific or generic, that is part of the national estate and the export of which SAHRA deems it necessary to control, may be declared a heritage object, including –

- objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects, meteorites and rare geological specimens;

- visual art objects;
- military objects;
- numismatic objects;
- objects of cultural and historical significance;
- objects to which oral traditions are attached and which are associated with living heritage;
- objects of scientific or technological interest;
- books, records, documents, photographic positives and negatives, graphic material, film or video or sound recordings, excluding those that are public records as defined in section 1 (xiv) of the National Archives of South Africa Act, 1996 ( Act No. 43 of 1996), or in a provincial law pertaining to records or archives; and
- any other prescribed category.

If it is necessary to refer to any of the above-mentioned objects, the National Heritage Act (Act 25 of 1999 Sections 31-38) is included in Appendix C.

Under the National Heritage Resources Act (Act No. 25 of 1999), provisions are made that deal with, and offer protection to, all historic and pre-historic cultural remains, including graves and human remains.

Graves younger than 60 years fall 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 reinterment 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. In order 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).

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 the South African Heritage Resource Agency (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 the category located inside a formal cemetery administrated by a local authority will also require the same authorisation as set out for graves younger than 60 years, over and above 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.

## 9. ASSESSMENT AND RECOMMENDATIONS

*A locality map is provided in **Annexure A** and Heritage Site map in **Annexure B***

During the survey twenty four sites of heritage value were found within the project area. However only sites **MHC001**, **MHC002**, **MHC004** and **MHC021** fall within the conceptual footprint of the proposed mining area. These sites will require further work before mining can commence.

<b>Site Number</b>	<b>Field Rating</b>	<b>Impact</b>	<b>Impact Significance</b>	<b>Heritage Significance</b>	<b>Certainty</b>	<b>Duration</b>	<b>Mitigation</b>
MHC001	Grade GP.B	Negative	High	Low to Medium	Probable	Long term	B
MHC002	Grade GP.B	Negative	High	High	Probable	Long term	B
MHC003	Grade GP.B	Negative	Low	Medium	Possible	Long term	B
MHC004	Grade GP.A	Negative	High	Low	Probable	Long term	B
MHC005	Grade GP.A	Negative	Low	Low	Possible	Long term	A
MHC006	Grade GP.B	Negative	Low	Medium	Possible	Long term	C
MHC007	Grade GP.A	Negative	Low	High	Possible	Long term	C
MHC008	Grade GP.B	Negative	Low	Medium	Possible	Long term	B
MHC009	Grade GP.B	Negative	Low	Medium	Possible	Long term	B
MHC010	Grade GP.B	Negative	Low	Medium	Possible	Long term	B
MHC011	Grade GP.C	Negative	Low	Low	Possible	Long term	A
MHC012	Grade GP.B	Negative	Low	Medium	Possible	Long term	B
MHC013	Grade GP.B	Negative	Low	Medium	Possible	Long term	B
MHC014	Grade GP.A	Negative	Low	High	Possible	Long term	C
MHC015	Grade GP.B	Negative	Low	Medium	Possible	Long term	B
MHC016	Grade GP.A	Negative	Low	High	Possible	Long term	C
MHC017	Grade GP.A	Negative	Low	High	Possible	Long term	C
MHC018	Grade GP.B	Negative	Low	Medium	Possible	Long term	B
MHC019	Grade GP.C	Negative	Low	Low	Possible	Long term	A
MHC020	Grade GP.B	Negative	Low	Medium	Possible	Long term	B
MHC021	Grade GP.A	Negative	Medium	Medium	Possible	Long term	C
MHC022	Grade GP.C	Negative	Low	Low	Possible	Long term	A
MHC023	Grade GP.C	Negative	Low	Low	Possible	Long term	A
MHC024	Grade GP.C	Negative	Low	High	Possible	Long term	A

### **Site MHC001, and MHC004**

It is recommended that shovel pit testing is conducted on these sites to determine depth and integrity of archaeological deposit, also to collect more diagnostic ceramics to positively establish group identity. Based on the findings further assessment of the site might be required. If nothing further of heritage significance is uncovered a destruction permit for the site must be applied for from SAHRA and based on approval thereof, the site can be demolished.

### **Site MHC002**

For the Iron Age aspect: Shovel pit testing to determine depth and integrity of archaeological deposit of the site. Test pit excavations will be aimed at identifying structures. Based on the findings further assessment of the site might be required.

For the Stone Age component: An Early Stone Age specialist must assess the study area, in particular the pebble layers that contain artefacts. New dating techniques could be used in this assessment.

### **MHC021**

It is recommended that the site is preserved and fenced off to protect the site during construction. If this is not possible within the mining plan it must be established if this is an unmarked grave. If this is the case the issue then needs to be addressed complying with all the relevant legislation.

### **General**

- **When the final layout plan is established for the mine it must be assessed whether any other sites will be impacted upon by roads, services, transmissions lines etc. The appropriate mitigation measures must be employed for these sites**
- **A Monitoring plan or watching brief must be agreed upon by all the stakeholders for the different phases of the project**
- **If during construction any possible finds are made, the operations must be stopped and a qualified archaeologist be contacted for an assessment of the find.**
- **A heritage resources management plan must be developed for managing the heritage resources in the study area during construction and operation of the**

**development. 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.**

*For recommendations on the sites that are not directly impacted upon by the present layout please refer to Section 6 of this report.*

If these recommendations are adhered to, there is from a Heritage point of view no reason why the development can not commence.

## 10. MANAGEMENT GUIDELINES AND PROCEDURES

Refer to Annexure C for the Heritage Management Plan.

## 11. LIST OF PREPARES

Jaco van der Walt, Accredited CRM archaeologist with ASAPA and SAHRA.

Wouter Fourie, Accredited CRM archaeologist with ASAPA and SAHRA

## 12. REFERENCES

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## 12.2 CULTURAL HERITAGE PAPERS

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Winter, S. & Baumann, N. 2005. *Guideline for involving heritage specialists in EIA processes: Edition 1*. CSIR Report No ENV-S-C 2005 053 E. Republic of South Africa, Provincial Government of the Western Cape, Department of Environmental Affairs & Development Planning, Cape Town.

## 12.3 ARCHIVAL MAPS

**Archival Maps**

National Archives, Maps, 3/26

National Archives, Maps, 3/584

**Archival Documents**

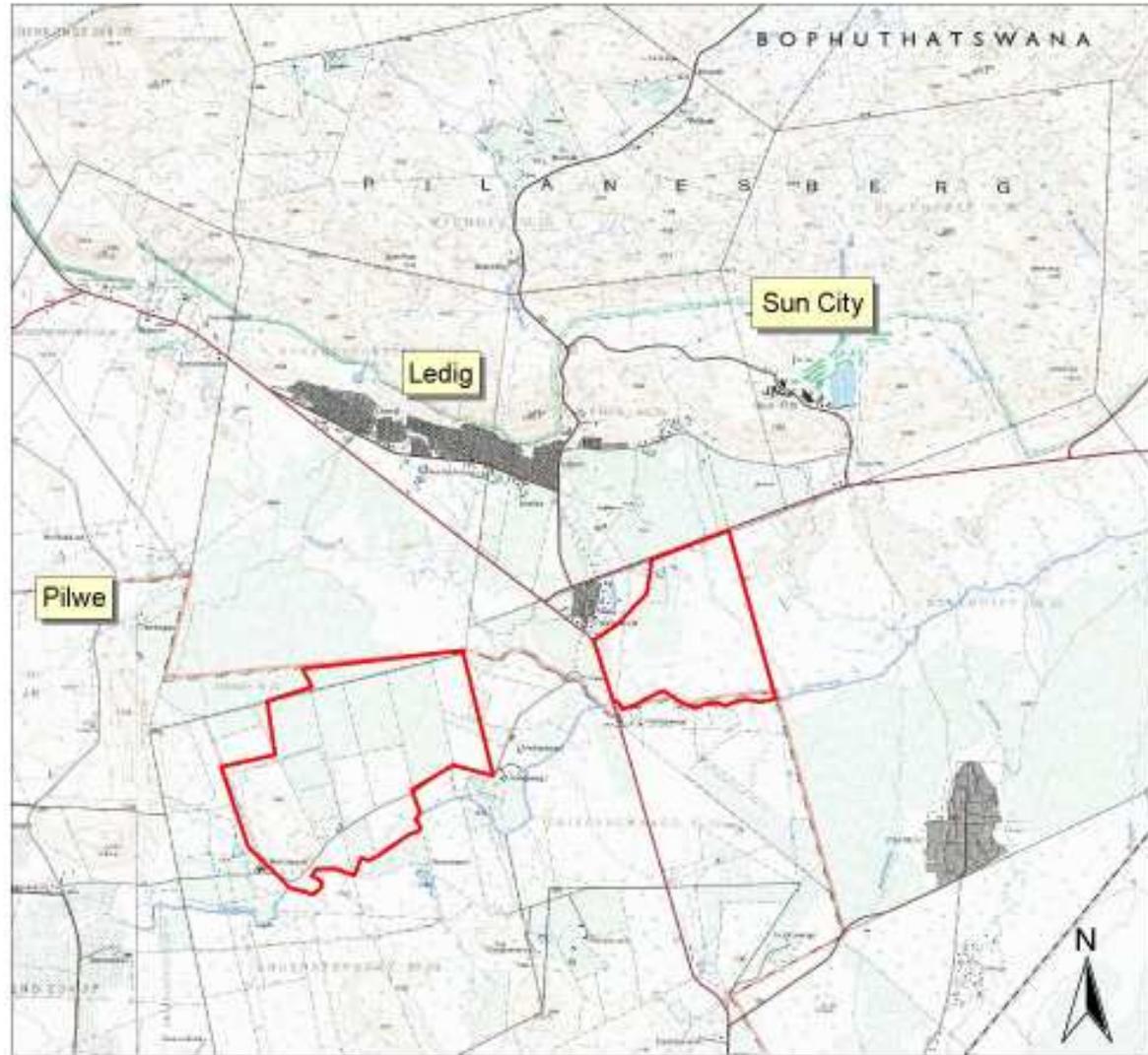
TAB, OD, OR1542/00

# **ANNEXURE A: Locality Map**

# Wesizwe Platinum Project Locality Map

**Legend**

 Study Area

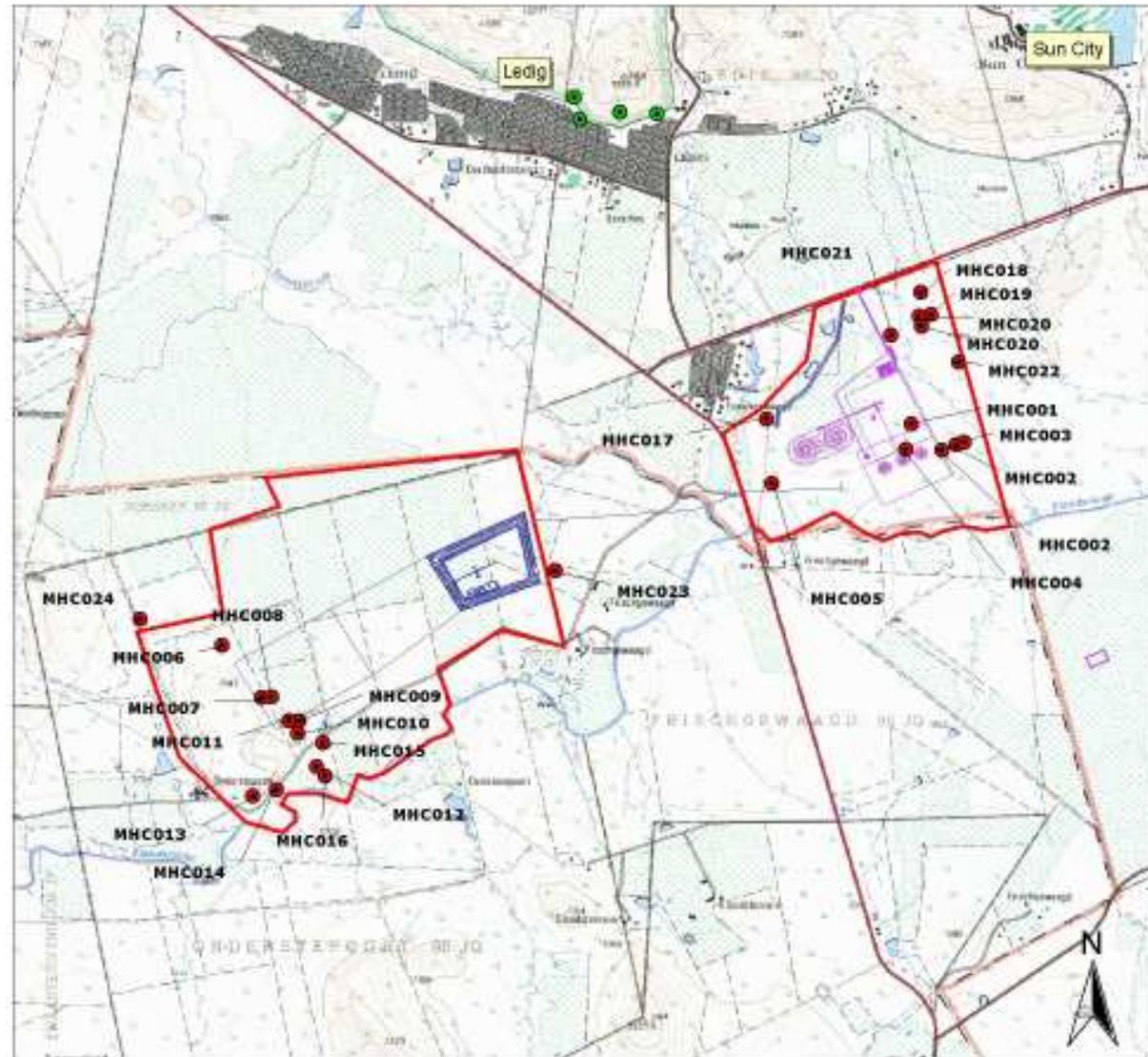


# **ANNEXURE B: Heritage Sites**

# Wesizwe Platinum Project Heritage Sites

**Legend**

- Heritage Sites in study area
- Storm water layout
- Civil layout conceptual
- Study Area
- Known Archaeological Sites



# **ANNEXURE C: Heritage Management Plan**

## HERITAGE MANAGEMENT PLAN – WESIZWE PLATINUM PROJECT

### 1. AFFECTED PARTIES

Parties identified, listed and registered during the Public Consultation Process managed through the Environmental Impact Assessment process for the new Wesizwe Platinum Project is seen interested and affected.

Those groups and individuals that has a strong and special link to heritage sites in the mining are deemed of major importance to the management of the heritage resources of the project.

### 2. SITE SIGNIFICANCE

The Heritage Impact Assessment completed for the project identified twenty four sites of heritage significance within the project area. The significance of these sites is as follows:

<b>Site Number:</b>	2527AC-MHC001
<b>Statement of Significance</b> ( <i>Heritage Value</i> )	Although little evidence of an Iron Age settlement is visible on the surface the occurrence of metal working classifies the site as of <b>low to medium</b> heritage significance
<b>Field Rating</b> ( <i>Recommended grading or field significance</i> ) of the site:	Generally protected (GP.B)

<b>Site number</b>	2527AD -MHC002
<b>Statement of Significance</b> ( <i>Heritage Value</i> )	The site is of <b>medium</b> heritage significance
<b>Field Rating</b> ( <i>Recommended grading or field significance</i> ) of the site:	Generally protected (GP.B)

<b>Site number</b>	2527AC-MHC003
<b>Statement of Significance</b> ( <i>Heritage Value</i> )	The site is of <b>medium</b> heritage significance

<b>Field Rating</b> <i>(Recommended grading or field significance) of the site:</i>	Generally protected (GP.B)
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<b>Site number</b>	2527AC-MHC004
<b>Statement of Significance</b> <i>(Heritage Value)</i>	The site is preliminary classified as of <b>low</b> heritage significance due to little evidence on the surface of a Iron Age settlement, but the possibility could exist that the site is of medium significance if more archaeological deposit is present
<b>Field Rating</b> <i>(Recommended grading or field significance) of the site:</i>	Generally protected (GP.A)

<b>Site number</b>	2527AC-MHC005
<b>Statement of Significance</b> <i>(Heritage Value)</i>	The site is of <b>low</b> heritage significance due to the lack of visible archaeological deposit and little visible evidence of Iron Age settlement
<b>Field Rating</b> <i>(Recommended grading or field significance) of the site:</i>	Generally protected (GP.A)

<b>Site number</b>	2527AC-MHC006
<b>Statement of Significance</b> <i>(Heritage Value)</i>	The site is of <b>medium</b> heritage significance due to the amount of archaeological deposit and the extensiveness of the site
<b>Field Rating</b> <i>(Recommended grading or field significance) of the site:</i>	Generally protected (GP.B)

<b>Site number</b>	2527AC-MHC007
<b>Statement of Significance</b> <i>(Heritage Value)</i>	The site is of <b>high</b> heritage significance until it is proven that the stone cairns are not graves
<b>Field Rating</b> <i>(Recommended grading or field significance) of the site:</i>	Generally protected (GP.A)

<b>Site number</b>	2527AC-MHC008
<b>Statement of Significance</b> ( <i>Heritage Value</i> )	The site is of <b>medium</b> heritage significance
<b>Field Rating</b> ( <i>Recommended grading or field significance</i> ) of the site:	Generally protected (GP.B)

<b>Site number</b>	2527AC-MHC009
<b>Statement of Significance</b> ( <i>Heritage Value</i> )	The site is of <b>medium</b> heritage significance
<b>Field Rating</b> ( <i>Recommended grading or field significance</i> ) of the site:	Generally protected (GP.B)

<b>Site number</b>	2527AC-MHC010
<b>Statement of Significance</b> ( <i>Heritage Value</i> )	The site is of <b>medium</b> heritage significance due to visible structures and deposit.
<b>Field Rating</b> ( <i>Recommended grading or field significance</i> ) of the site:	Generally protected (GP.B)

<b>Site number</b>	2527AC-MHC011
<b>Statement of Significance</b> ( <i>Heritage Value</i> )	The site is of <b>low</b> heritage significance due to the amount of disturbance on the site
<b>Field Rating</b> ( <i>Recommended grading or field significance</i> ) of the site:	Generally protected (GP.C)

<b>Site number</b>	2527AC-MHC012
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<b>Statement of Significance</b> ( <i>Heritage Value</i> )	The site is of <b>medium</b> heritage significance because of the location of the site and the amount of cultural material
<b>Field Rating</b> ( <i>Recommended grading or field significance</i> ) of the site:	Generally protected (GP.B)

<b>Site number</b>	2527AC – MHC013
<b>Statement of Significance</b> ( <i>Heritage Value</i> )	The site is of <b>medium</b> heritage significance due to the amount of archaeological deposit
<b>Field Rating</b> ( <i>Recommended grading or field significance</i> ) of the site:	Generally protected (GP.B)

<b>Site number</b>	2527AC-MHC014
<b>Statement of Significance</b> ( <i>Heritage Value</i> )	The site is of <b>high</b> heritage significance until it is proven that the stone cairn is not a grave
<b>Field Rating</b> ( <i>Recommended grading or field significance</i> ) of the site:	Generally protected (GP.A)

<b>Site number</b>	2527AC-MHC015
<b>Statement of Significance</b> ( <i>Heritage Value</i> )	The site is of <b>medium</b> heritage significance because it is so well preserved with the possibility of archaeological deposit
<b>Field Rating</b> ( <i>Recommended grading or field significance</i> ) of the site:	Generally protected (GP.B)

<b>Site number</b>	2527AC-MHC016
<b>Statement of Significance</b> ( <i>Heritage Value</i> )	The site is of <b>high</b> heritage significance until it is proven that the stone cairn is not a grave

<b>Field Rating</b> <i>(Recommended grading or field significance) of the site:</i>	Generally protected (GP.A)
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<b>Site number</b>	2527AC-MHC017
<b>Statement of Significance</b> <i>(Heritage Value)</i>	The site is of <b>high</b> heritage significance
<b>Field Rating</b> <i>(Recommended grading or field significance) of the site:</i>	Generally protected (GP.A)

<b>Site number</b>	2527AC-MHC018
<b>Statement of Significance</b> <i>(Heritage Value)</i>	Because of the large area in which the cultural material is found and the high amount of decorated ceramics the site is given a <b>medium</b> heritage significance
<b>Field Rating</b> <i>(Recommended grading or field significance) of the site:</i>	Generally protected (GP.B)

<b>Site number</b>	2527AC-MHC019
<b>Statement of Significance</b> <i>(Heritage Value)</i>	The site is of <b>low</b> heritage significance due to the low visibility of cultural material
<b>Field Rating</b> <i>(Recommended grading or field significance) of the site:</i>	Generally protected (GP.C)

<b>Site number</b>	2527AC-MHC020
<b>Statement of Significance</b> <i>(Heritage Value)</i>	The site is of <b>medium</b> heritage significance due to the amount of cultural material on the surface and evidence of structures in the form of hut dagga

<b>Field Rating</b> <i>(Recommended grading or field significance) of the site:</i>	Generally protected (GP.B)
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<b>Site number</b>	2527AC-MHC021
<b>Statement of Significance</b> <i>(Heritage Value)</i>	The site is of <b>high</b> heritage significance until it is proven that the stone cairn is not a grave
<b>Field Rating</b> <i>(Recommended grading or field significance) of the site:</i>	Generally protected (GP.A)

<b>Site number</b>	2527AC-MHC022
<b>Statement of Significance</b> <i>(Heritage Value)</i>	The site is of <b>low</b> heritage significance due to the low density of archaeological material visible on the surface
<b>Field Rating</b> <i>(Recommended grading or field significance) of the site:</i>	Generally protected (GP.C)

<b>Site number</b>	2527AC-MHC023
<b>Statement of Significance</b> <i>(Heritage Value)</i>	The site is of <b>low</b> heritage significance due to the low density of archaeological material visible on the surface
<b>Field Rating</b> <i>(Recommended grading or field significance) of the site:</i>	Generally protected (GP.C)

<b>Site number</b>	2527AC-MHC024
<b>Statement of Significance</b> <i>(Heritage Value)</i>	The site is of <b>high</b> heritage significance
<b>Field Rating</b> <i>(Recommended grading or field significance) of the site:</i>	Generally protected (GP.C)

### **3. KEY ISSUES**

- Policy development for the management of heritage sites
- Possible pre-construction threats to sites;
- Identification of environmental and social threats to heritage sites;
- Management of mitigation measures for impacts;
- Management of heritage sites during construction;
- Management of heritage sites during operations;
- Identification of research opportunities;
- Monitoring of heritage sites during operational phase;
- Management of site rehabilitation;
- Management of research;
- Management of cultural landscapes;

### **4. MANAGEMENT OBJECTIVES**

#### *4.1 Policy development*

A policy relating to the management and conservation of heritage resources must be developed in consultation with the client and all relevant role players. This policy must be based on the IFC Performance Standard 8, must include:

The protection of irreplaceable cultural heritage and to guide clients on protecting cultural heritage in the course of their business operations.

#### ***Objectives***

- To protect cultural heritage from the adverse impacts of project activities and support its preservation
- To promote the equitable sharing of benefits from the use of cultural heritage in business activities

This policy must cover all cultural heritage refers to tangible forms of cultural heritage, such as tangible property and sites having archaeological (prehistoric), palaeontological, historical, cultural, artistic, and religious values, as well as unique natural environmental features that embody cultural values, such as sacred groves.

The policy must adhere to:

- Protection of Cultural Heritage in Project Design and Execution
- Internationally Recognized Practices

In addition to complying with relevant national law on the protection of cultural heritage, including national law implementing the host country's obligations under the Convention Concerning the Protection of the World Cultural and Natural

Heritage and other relevant international law, the client will protect and support cultural heritage by undertaking internationally-recognized practices for the protection, field-based study, and documentation of cultural heritage.

The policy should also address the consultation and inclusion of communities associated with such cultural heritage resources.

Removal of Cultural Heritage must also be addressed and adhere to international accepted standards.

#### *4.2 General Management Guidelines*

1. The National Heritage Resources Act (Act 25 of 1999) states that, any person who intends to undertake a development categorised as-
  - (a) the construction of a road, wall, power line, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;
  - (b) the construction of a bridge or similar structure exceeding 50m in length;
  - (c) any development or other activity which will change the character of a site-
    - (i) exceeding 5 000 m<sup>2</sup> in extent; or
    - (ii) involving three or more existing erven or subdivisions thereof; or

- (iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or
  - (iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;
- (d) the re-zoning of a site exceeding 10 000 m<sup>2</sup> in extent; or
- (e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

In the event that an area previously not included in an archaeological or cultural resources survey, is to be disturbed, the South African Heritage Resources Agency (SAHRA) needs to be contacted. An enquiry must be lodged with them into the necessity for a Heritage Impact Assessment.

2. In the event that a further heritage assessment is required it is advisable to utilise a qualified heritage practitioner preferably registered with the Cultural Resources Management Section (CRM) of the Association of Southern African Professional Archaeologists (ASAPA).

This survey and evaluation must include:

- (a) The identification and mapping of all heritage resources in the area affected;
- (b) an assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6 (2) or prescribed under section 7 of the National Cultural Resources Act;
- (c) an assessment of the impact of the development on such heritage resources;
- (d) an evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;
- (e) the results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources;
- (f) if heritage resources will be adversely affected by the proposed development, the consideration of alternatives; and

- (g) plans for mitigation of any adverse effects during and after the completion of the proposed development.
3. In the event that a possible find is discovered during construction, all activities must be halted in the area of the discovery and a qualified archaeologist contacted.
  4. The archaeologist needs to evaluate the finds on site and make recommendations towards possible mitigation measures.
  5. If mitigation is necessary, an application for a rescue permit must be lodged with SAHRA.
  6. After mitigation an application must be lodged with SAHRA for a destruction permit. This application must be supported by the mitigation report generated during the rescue excavation. Only after the permit is issued may such a site be destroyed.
  7. If during the initial survey sites of cultural significance is discovered, it will be necessary to develop a management plan for the preservation, documentation or destruction of such site. Such a program must include a *watching brief*, timeframe and agreed upon schedule of actions between the company and the archaeologist.
  8. In the event that human remain are uncovered or previously unknown graves are discovered a qualified archaeologist needs to be contacted and an evaluation of the finds made.
  9. If the remains are to be exhumed and relocated, the relocation procedures as accepted by SAHRA needs to followed. This includes an extensive social consultation process.

#### 4.3 Pre-Construction

Based on the findings of the Heritage Report, all stakeholders and key personnel should undergo an archaeological induction course during this phase.

Induction courses generally form part of the employees' (miners') overall training and the archaeological component can easily be integrated into these training sessions.

Two courses should be organised –

- one aimed more at managers and supervisors, highlighting the value of this exercise and the appropriate communication channels that should be followed after chance finds, and
- the second targeting the actual workers and getting them to recognize artefacts, features and significant sites. This needs to be supervised by a qualified archaeologist. This course should be reinforced by posters reminding operators of the possibility of finding archaeological sites.

#### *4.4 Construction Phase*

The project will encompass a range of activities during the construction phase, including ground clearance, establishment of mining area, waste dumps and housing development, amongst others. Construction activities related to the mine encompass the total destruction of the land surface and subsequent to that, all cultural and natural relics located in the directly affected area will be lost.

- It is possible that cultural material will be exposed during operations and feasibly may be recoverable, but this is the high-cost front of the operation, and so any delays should be minimised.
- Development surrounding infrastructure and construction of facilities result in significant disturbance, but construction trenches do offer a window into the past and it may be possible to rescue some of these data and materials.
- It is also possible that substantial alterations are implemented during this phase of the project and these must be catered for.
- Temporary roads and construction camps are often overlooked during the planning and implementation phases with regards to archaeological and heritage assessments, causing some unmitigated environmental damage.
- Temporary infrastructure are often changed or added to the subsequent history of the project. In general these are low impact developments as they are superficial, resulting in little alteration of the land surface, but still need to be catered for.
- Similarly, the construction of transmission lines are low impact developments in archaeological terms, but excavation holes still may expose artefacts.

- During the construction phase, it is important to recognize any significant material being unearthed, making the correct judgment on which actions should be taken.
- A responsible archaeologist must be appointed for this commission. This person does not have to be a permanent employee, but needs to sit in at relevant meetings, for example when changes in design are discussed, and notify SAHRA of these changes.
- The archaeologist would inspect the site and any development recurrently, with more frequent visits to the actual workforce and operational areas.
- In addition, feedback reports can be submitted by the archaeologist to the client and SAHRA to ensure effective monitoring.
- Should a site or cultural material be discovered during construction (or operation), for example burials, the project needs to be able to call on a qualified expert to make an expert decision on what is required and if necessary to carry out emergency recovery.
- SAHRA would need to be informed and may give advice on procedure.
- The developers thus should have some sort of contingency plans so that operations could move temporarily elsewhere while the material and data are recovered.
- The project thus needs to have an archaeologist available to do such work.
- The purpose of the monitoring programme is to provide general information to the developer with regards to management recommendations and cost estimates for the archaeological component, a specialist sub-section of the Environmental Impact Assessment (EIA) process, for the project. Such a monitoring programme is planned for observation and investigation conducted during any operation carried out for non-archaeological reasons. This will be within a specified area or site on land where there is a possibility that archaeological deposit may be disturbed or destroyed.

The monitoring program (watching brief) outline is provided in Section 4.4.4.

#### 4.4.1 *Identification of threats*

The identification of threats to all heritage sites must be done before the commencement of construction. These threats include:

##### ***Construction operations***

- Damage due to earthmoving;
- Sitting of construction camps;
- Dumping of overburden;
- Temporary roads;
- Erosion of heritage sites and deposits;
- Uncoordinated movement of personnel and machinery

##### ***Operational phase***

- Damage due to earthmoving;
- Sitting of temporary storage;
- Dumping of overburden;
- Temporary roads;
- Erosion of heritage sites and deposits;
- Uncoordinated movement of personnel and machinery;
- Theft of heritage objects.

#### 4.4.2 Mitigation requirements

Sites **MHC001**, **MHC002**, **MHC004** and **MHC021** fall within the conceptual footprint of the proposed mining area. These sites will require further work before mining can commence.

##### **Site MHC001, and MHC004**

It is recommended that shovel pit testing is conducted on these sites to determine depth and integrity of archaeological deposit, also to collect more diagnostic ceramics to positively establish group identity. Based on the findings further assessment of the site might be required. If nothing further of heritage significance is uncovered a destruction permit for the site must be applied for from SAHRA and based on approval thereof, the site can be demolished.

##### **Site MHC002**

*For the Iron Age aspect:* Shovel pit testing to determine depth and integrity of archaeological deposit of the site. Test pit excavations will be aimed at identifying structures. Based on the findings further assessment of the site might be required.

*For the Stone Age component:* An Early Stone Age specialist must assess the study area, in particular the pebble layers that contain artefacts. New dating techniques could be used in this assessment.

##### **MHC021**

It is recommended that the site is preserved and fenced off to protect the site during construction. If this is not possible within the mining plan it must be established if this is an unmarked grave. If this is the case the issue then needs to be addressed complying with all the relevant legislation.

#### 4.4.3 *Management Guidelines for mitigation*

The sites to be impacted on by the construction and mining activities will require mitigation as recommended during the Heritage Impact Assessment. The following process will be required for mitigation:

1. Meeting on Site to identify final mitigation measures
  - Client
  - Archaeologist
  - South African Heritage Resources Agency (SAHRA) – National and North West Province
2. Application for permit to conduct mitigation excavations:
  - Archaeologist - Physical documentation
  - SAHRA National – Review application
  - Developer – Letter of agreement on work to be done and appointment of archaeologist
3. Physical Surveying of site layout in development area
4. Receiving of mitigation permit from SAHRA National
5. Physical mitigation excavations involved:
  - Archaeologist, with team of field assistants
6. Lab Analysis and Documentation completion – Reporting:
  - Archaeologist, with team of field assistants
7. Application of destruction Permit
  - Archaeologist – Application documentation and final report
  - SAHRA – Review and final authorisation
8. Commencement of full-blown construction

#### 4.4.4 *Monitoring Program(Watching brief)*

The following outline for the watching brief agreement conforms to international standards.

The purpose of a watching brief is:

- To allow, within the resources available, the preservation by record of archaeological deposits, the presence and nature of which could not be established.
- To provide an opportunity, if needed, for the watching archaeologist to signal to all interested parties, before the destruction of the material in question, that an archaeological find has been made for which the resources allocated to the watching brief itself are not sufficient to support treatment to a satisfactory and proper standard.
- A watching brief is not intended to reduce the requirement for excavation or preservation of known or inferred deposits, and it is intended to guide, not replace, any requirement for contingent excavation or preservation of possible deposits.
- The objective of a watching brief is to establish and make available information about the archaeological resource existing on a site.
- An archaeologist shall only undertake a watching brief, which is governed by a written and agreed specification or project design prepared in advance of work commencing.
- The specification or project design must identify the objectives, scope, geographical area, and means of dissemination of the results of the watching brief, and incorporate a method statement and work programme.

The specification or project design should contain, as a minimum, the following elements:

- Non-technical summary
- Site location (including map) and descriptions
- Context of the project

- Geological and topographical background
- Archaeological and historical background
- General and specific aims of fieldwork
- Reference to relevant legislation
- Field methodology
- Collection and disposal strategy for artefacts and ecofacts
- Arrangement for immediate conservation of artefacts
- Post-fieldwork methodology
- Report preparation (method)
- Publication and dissemination proposals
- Copyright
- Archive deposition
- Timetable
- Staffing
- Health & safety considerations
- Monitoring procedures
- Contingency arrangements (if appropriate)

### **3. FIELDWORK**

- 3.1 All relevant parties must agree to the specification and/or project design before work commences. All work must conform to the agreed specification or project design. All relevant parties must agree to any variations in writing.
- 3.2 Sufficient and appropriate resources (staff, equipment, accommodation etc) must be used to enable the project to achieve its aims, the desired quality and timetable, and comply with all statutory requirements. Any contingency elements must

be clearly identified and justified. It is the role of the archaeologist undertaking the work to define appropriate staff levels.

- 3.3 All techniques used must comply with relevant legislation and be demonstrably fit for the defined purpose(s).
- 3.4 All staff, including subcontractors, must be suitably qualified and experienced for their project roles, and employed in line with relevant legislation and IFA by-laws (see Appendix 6). The site director and/or manager should preferably be a Principal Inspector with the Cultural Resources Management Section of the South African Association of Archaeologists (CRM Section of SA3).
- 3.5 All staff, including subcontractors, must be fully briefed and aware of the work required under the specification, and must understand the aims and methodologies of the project. All equipment must be suitable for the purpose and in sound condition and comply with Health and Safety regulations and recommendations.
- 3.6 Sufficient and appropriate resources (staff, equipment, accommodation etc) must be used to enable the project to achieve its aims, the desired quality and timetable, and to comply with all statutory requirements. Any contingency elements must be clearly identified and justified. It is the role of the archaeologist undertaking the work to define appropriate staff levels.
- 3.7 Full and proper records (written, graphic, electronic and photographic as appropriate) should be made for all work, using pro forma record forms and sheets as applicable. Digital records created, as part of the project should comply with specified data standards. An archaeologist must ensure that digital information, paper and photographic records should be stored in a secure and appropriate environment, and be regularly copied or backed up, and copies stored in a separate location.
- 3.8 Artefact and environmental data collection and discard policies, strategies and techniques must be fit for the defined purpose, and understood by all staff and subcontractors
- 3.9 Health and Safety regulations and requirements cannot be ignored no matter how imperative the need to record archaeological information; hence Health and Safety will take

priority over archaeological matters. All archaeologists undertaking fieldwork must do so under a defined Health and Safety Policy.

- 3.10 Archaeologists undertaking fieldwork must observe safe working practices; the Health and Safety arrangements must be agreed and understood by all relevant parties before work commences
- 3.11 Archaeologists must liaise closely with the principal contractor and comply with specified site rules. Archaeologists are advised to note the onerous responsibilities of the role of planning supervisor.
- 3.12 The archaeologist undertaking a watching brief must ensure that he or she has adequate insurance policies, public and employer's liability and some relevant form of civil liability indemnity or professional indemnity.
- 3.13 On arrival on site, the archaeologist should report to the site manager or other identified representative of the principal contractors or developers, and conform to their arrangements for notification of entering and leaving site.
- 3.14 Where the archaeologist has by instruction or agreement the power to suspend development work, he or she shall, in exercising such power, follow procedures previously agreed with the other contractors on the site. Within the constraints of the nature of the archaeological resource, the archaeologist shall not cause unreasonable disruption to the maintenance of the work schedules of other contractors.
- 3.15 An archaeologist should keep a record of the date, time and duration of all visits, the number of staff concerned and any actions taken.

#### **4. POST-FIELDWORK ANALYSES AND REPORTS**

- 4.1 Suitably qualified and experienced staff, who must be apprised of the project design before commencing work, and who should understand the work required of them, must carry out all assessment and analytical work.
- 4.2 The level of recording and analysis of artefacts and ecofacts should be appropriate to the aims and purpose of the project.

- 4.3 All data generated as a result of assessment and/or analysis should be included in the project archive.
- 4.4 All reports must address the aims and purposes of the project design and/or specification.
- 4.5 All reports should be written in a clear, concise and logical style; technical terms should be explained if the report is for a non-archaeological audience. Consideration should be given during the preparation of the report to the requirements of public inquiries and courts of law if appropriate.
- 4.6 Subject to any contractual requirements on confidentiality, copies of the report must be submitted to the appropriate Provincial Heritage Resources Agency (PHRA) within six months of completion of report.
- 4.7 As a minimum, a site summary or data structure report should be submitted to the appropriate PHRA.

## **5. MONITORING**

- 5.1 All work must be monitored by the archaeological contractor undertaking the project, and if appropriate by the PHRA, the Cultural Resources Management Section of the South African Association of Archaeologists (CRM Section of SA3), or their nominated representatives. The guidance below is directed in general at monitors from outside the organisation undertaking the work, but many of the points apply equally to internal monitors or managers.
- 5.2 A monitor should be suitably experienced and qualified, or have access to appropriate specialist advice.
- 5.3 Monitoring must be undertaken against the written specification and/or project design.
- 5.4 Monitors, where not representing the commissioning body, should bear in mind the need for flexibility, within the stated parameters, in contractual matters such as staff numbers, budgets or timetable.
- 5.5 All monitoring visits must be documented, and agreed by each party.
- 5.6 Non-compliance with the agreed specification or project design must be pointed out by the monitor to the archaeologist

undertaking the work, and their client if appropriate, at the earliest opportunity.

- 5.7 Monitors should be aware of their professional and moral duties regarding Health and Safety, in particular reporting and advising against bad and unsafe practice.
- 5.8 All monitoring arrangements must be agreed at the outset of the project; the archaeologist undertaking fieldwork must inform the planning archaeologist or other monitor of the commencement of work with reasonable notice.
- 5.9 Although monitors may choose to visit at any time, they should normally inform the archaeologist undertaking the work of any intended visits in advance. Monitors must respect reasonable requests from the client commissioning the work to attend only at prearranged times and, if necessary, in the company of the client's representative.
- 5.10 Any costs for monitoring to be charged by the planning archaeologist or other monitor must be agreed in writing at the outset of the project.

## **6. REPORT CONTENTS**

The specific requirements of any report will necessarily vary according to the scope of works, the nature of the results or other factors. However, the following sections will occur in most:

### **Non-technical summary**

This should outline in plain, non-technical language the principal reason for the work, its objectives and main results. It should include reference to authorship and commissioning body.

### **Introductory statements**

These could include acknowledgements, circumstances of the project such as planning background, the archaeological background, an outline nature of work, the site description (including size, geology and topography, location), when the project was undertaken and by whom.

### **Aims and objectives**

These should reflect or reiterate the aims set out in the project design or specification.

### **Methodology**

The methods used, including the detail of any variation to the agreed project design or specification should be set out carefully, and explained as appropriate. These should be set out as a series of summary statements, organised clearly in relation to the methods used, and describing structural data, associated finds and/or environmental data recovered. Descriptive material should be clearly separated from interpretative statements. Technical terminology (including dating or period references) should be explained where necessary if the report is aimed at a largely non-archaeological audience. The results should be amplified where necessary by the use of drawings and photographs; and by supporting data contained in appendices (below).

### **Conclusions**

It is appropriate to include a section, which sums up and interprets the results and puts them into context (local, national or otherwise). Other elements should include a confidence rating on techniques used, or on limitations imposed by particular factors (eg weather or problems of access).

### **Archive location**

The final destination of the archive (records and finds) should be noted in the report.

### **Appendices**

These should contain essential technical and supporting detail, including for example lists of artefacts and contexts or details of measurements, gazetteers etc. It may also be appropriate to include the project design or specification for ease of reference.

### **Illustrations**

Most reports will need the inclusion of one or more illustrations for clarity; as a minimum a location plan should be included. Any plans or sections should be clearly numbered and easily referenced to the National Grid and related to the specified area.

## **References and bibliography**

A list of all sources used should be appended to the report.

## **Other**

Contents list, disclaimers.

### *4.5 Operational Phase*

Once the project is up and running, the urgency declines but does not cease. Undocumented sites are still protected by law as no permit would have been issued for their destruction. Apart from any significant changes in operation design, which call for the inclusion of an archaeologist in decision making and notification of SAHRA, there is the accumulated impact of a project on the land surface, and this could result in erosion exposing further sites. Periodic monitoring by an archaeologist and awareness promotion therefore remain tasks.

#### 4.5.1 Management and conservation

OBJECTIVES	THREATS OR RISKS	MANAGEMENT MEASURES	TIME FRAME	RESPONSIBILITY	MONITORING CRITERIA	MONITORING FREQUENCY
Assesses impacts before construction	Potential damage to in situ deposits	Appoint independent archaeologist to identify and assess site significance	Completed Aug 2007	Client	SAHRA to review report	On receipt
Appoint experienced contractor	Inexperience contractors may damage sites	Advertise for tenders and draw up terms of reference and detailed plan	To comply with project time frames	Client	Evaluate applicants according to previous experience	As required
Appoint Professional Archaeologist	Inexperience can damage sites or lead to unnecessary removal of deposits	Archaeologist to apply to SAHRA for permit and submit action plan for review.	Necessary Appoint before necessary mitigation measures	Client	Appoint experienced person	As required
Co-ordinate project planning	Un-coordinated rehabilitation and conservation work is inefficient	Planning and co-ordination must be done in conjunction with mining company, Officer (ECO) and Archaeologist	Immediate	Client Archaeologists	All parties to report to Client	Weekly
Draw up specifications for mitigation, conservation and rehabilitation	Poor quality materials and workmanship will create further problems in the future	Archaeologist to be present throughout mitigation and conservation;	Necessary	Client Archaeologist, ECO	<ul style="list-style-type: none"> <li>• Regular inspections by ECO,</li> <li>• Check site is kept tidy and sand bags are covered at all times.</li> <li>• Progress and final reports to be delivered.</li> </ul>	As often as possible

<i>OBJECTIVES</i>	<i>THREATS OR RISKS</i>	<i>MANAGEMENT MEASURES</i>	<i>TIME FRAME</i>	<i>RESPONSIBILITY</i>	<i>MONITORING CRITERIA</i>	<i>MONITORING FREQUENCY</i>
EMP Training for rehabilitation workers	Workers not aware of significance and sensitivity of site. Theft and damage leads to loss of information and site integrity	Ensure that all personnel are familiar with the aims of the Environmental Management Plan (EMP) and the statement of significance. No artefacts or other material may be moved, picked up or removed from the site without a permit.	Immediate  Training by Client	All parties involved in the archaeological mitigation project.  The contractor shall familiarise all employees with the EMP contents, either in writing or verbally.	ECO shall require written proof or confirmation from the contractor that EMP training has been done.  Spot checks to ensure personnel are not removing artefacts.	Monthly
Disseminate information to heritage resources authorities	Loss of information through inadequate recording	Any archaeological or historical material found accidentally must be reported to responsible Archaeologist or SAHRA	Necessary Reports to be submitted to SAHRA	Client, Archaeologist, SAHRA	Check sites are recorded and photographs are taken.  Reports to be peer reviewed	As required on permit
Delimit contract areas	Impact beyond areas requiring mitigation	Client and Archaeologists must indicate to contractors the area of work for the duration of the contract, including access road to be used, construction lay-down areas, materials storage and delivery requirements, work stations, pedestrian routes and operational demarcation, etc.	Immediate	Client and Archaeologists	Maps to be signed off at the start of each contract Check contractor works within demarcated areas	Immediate

<i>OBJECTIVES</i>	<i>THREATS OR RISKS</i>	<i>MANAGEMENT MEASURES</i>	<i>TIME FRAME</i>	<i>RESPONSIBILITY</i>	<i>MONITORING CRITERIA</i>	<i>MONITORING FREQUENCY</i>
		Boundaries of the sites and conservation areas shall be demarcated by the Contractor, as instructed by the Client and the Archaeologist, prior to any work commencing on the site.  Any changes must be recorded in writing.	Immediate	Client and Archaeologists	No encroachment beyond the demarcated boundaries to be permitted. Contractor must ensure all labour and materials remain within the boundaries of the site.	Weekly
Demarcate sensitive areas	Damage to archaeological sites	Sensitive areas identified by Client and/or Archaeologists to be demarcated with wire fencing.	Immediate	Client and Archaeologists	Check that danger fencing is in correct place	Weekly
Control erosion	Ongoing water and wind erosion leads to loss of deposit, topsoil and vegetation	Stockpile topsoil for later re-use Exposed surfaces that are not archaeologically sensitive to be re-vegetated and/or sandbagged  Protect all areas susceptible to erosion  Slopes identified for protection should be stabilised at no steeper than 1(V):3(H)	Necessary	Client, Archaeologist and ECO	Contractor shall not allow erosion to develop before effecting repairs and all erosion damage to be repaired as soon as possible.	On-going

<i>OBJECTIVES</i>	<i>THREATS OR RISKS</i>	<i>MANAGEMENT MEASURES</i>	<i>TIME FRAME</i>	<i>REPSONSIBILITY</i>	<i>MONITORING CRITERIA</i>	<i>MONITORING FREQUENCY</i>
Agree on hours of operation	Work at unauthorised times can lead to un-coordinated activities	Contractor's and labourers' hours shall be between 07:00 and 18:00	Necessary	Contractor	Contractor to confirm hours of operation in writing	On-going
Indicate access roads	Damage to sites and deposits if correct access routes not used	Only those roads agreed to between Client, Archaeologists and Contractor may be used	Immediate	Contractor, ECO, Client and Archaeologists	ECO to check access roads regularly	Weekly
		Access roads must be planned to deviate around trees or other natural features marked out in an approved manner by Client	Immediate	Client, ECO and Contractor	ECO to check access roads regularly	Weekly
Provide access for Construction vehicles	Temporary roads and off-road access can damage sites and interfere with integrity of cultural landscape	No off-road driving allowed; temporary access roads must be rehabilitated after usage and width of roads restricted to maximum of 3 m.	Necessary	Contractor and Client	Check rehabilitation of temporary access roads against those agreed to satisfaction of Client	As required
Demarcate areas for construction personnel	Un-coordinated movement can lead to damage of sites and landscape	Contractor must ensure that all construction personnel, labourers and equipment remain within demarcated restoration sites at all times. Movement outside boundaries may be done only with permission from the ECO	Necessary	Contractor and ECO	Check that all work is done within demarcated areas.	Weekly

<i>OBJECTIVES</i>	<i>THREATS OR RISKS</i>	<i>MANAGEMENT MEASURES</i>	<i>TIME FRAME</i>	<i>REPSONSIBILITY</i>	<i>MONITORING CRITERIA</i>	<i>MONITORING FREQUENCY</i>
	Constant use of paths causes erosion	Conveyor belts can be used to outline pedestrian routes and prevent impact on archaeological deposits. Confine pedestrian routes to paths.	Necessary	Contractor and Archaeologist		
Reduce impact of Construction camps	Impact of camps can damage cultural landscape	If construction camps or working stations are established, the camp must conform to all contractual issues and standards, include issues related to fires, ablution, sleeping facilities and waste management	Necessary	Contractor, ECO and Client	Inspect camps and working stations and check against contractual issues	Weekly
Provide efficient toilet facilities	Could be unsightly and a health hazard	<p>Minimum of one chemical toilet per 10 persons at sites to be agreed with the ECO.</p> <p>No abluting anywhere other than in toilets.</p> <p>Waste shall be disposed of at a location and in a manner that involves no pollution or degradation of the environment.</p> <p>If spillage occurs, toilets must be placed on a solid base.</p>	Necessary	Contractor, ECO	Check construction site is maintained in a sanitary condition and all toilet facilities are maintained in good order.	Weekly
Provide water for construction purposes	Pollution and erosion	Indicate to contractors where water can be obtained, for example for cement mixing as well as for drinking.	Necessary	Contractor, ECO, Client	Contractors shall only make use of or collect water from indicated sources	On-going

<i>OBJECTIVES</i>	<i>THREATS OR RISKS</i>	<i>MANAGEMENT MEASURES</i>	<i>TIME FRAME</i>	<i>REPSONSIBILITY</i>	<i>MONITORING CRITERIA</i>	<i>MONITORING FREQUENCY</i>
Prevent and control fires	Damage to vegetation and sites	No fires permitted on construction sites without authority of the ECO. Cooking permitted only in areas designated by the ECO.	Necessary	Contractor, SiteManager, ECO	No fires	Weekly
Efficient waste disposal and handling	Litter	Waste and litter bins to be provided at regular and strategic positions. No waste or litter to be burnt on site.	Necessary	Contractor, Site Manager, ECO	Waste and litter to be disposed of at a suitably registered and licensed disposal site.	Weekly

#### 4.5.2 Management of research

<i>OBJECTIVES</i>	<i>THREATS OR RISKS</i>	<i>MANAGEMENT MEASURES</i>	<i>TIMEFRAME</i>	<i>RESPONSIBILITY</i>	<i>MONITORING CRITERIA</i>	<i>MONITORING FREQUENCY</i>
Identify research needs and priorities	Research opportunities may be lost if heritage sites are not accessible	Develop a research policy and priorities in consultation with all stakeholders  Draft a 5-year plan Ensure publication of results of mitigation and research	Necessary	Client, Archaeologist, SAHRA	Deliver policy before commencement of mining operations  Assess research applications on merit  Check publications	Annually
Protect and retain Artefacts exposed by erosion	Loss of information and temptation for visitors to remove souvenirs	Archaeologists to remove surface artefacts exposed by erosion in areas not frequented by visitors  Visitors not to move or remove any artefacts  Take fixed point photographs on surfaces with artefacts that are frequented by visitors and compare distribution of artefacts annually	Necessary  Annual report on surface artefacts from visited sites	Client, Archaeologists, SAHRA	Advise archaeologists of exposed artefacts  Check surface artefacts against photographs and list those missing  Take new photographs as required.	Annually  Assess impact of visitors on Surface artefacts after three years
Liaison with SAHRA Permitting authority	SAHRA and Client could have differing	SAHRA to review applications	Necessary	Client, SAHRA	Review permits and reports	Annually

#### 4.5.3 Management of cultural landscapes

<i>OBJECTIVES</i>	<i>THREATS OR RISKS</i>	<i>MANAGEMENT MEASURES</i>	<i>TIMEFRAME</i>	<i>REPSONSIBILITY</i>	<i>MONITORING CRITERIA</i>	<i>MONITORING FREQUENCY</i>
Retain significance of site features and landscape	Lack of integrity and authenticity diminishes significance of sites	Identify elements in the landscape that have tangible and intangible significance and ensure they retain their integrity	Necessary Plans agreed	Client, SAHRA	Mark places of significance on a map of the site	On-going
Engage with local communities	Lack of consultation leads to dissatisfaction and adverse publicity from affected communities	Engage with land owners and claimants;  Communicate with local communities; and  involve them in promotion and conservation	Necessary	Client	Check that meetings have been held and relevant people have been identified for consultation	On-going
Integrate cultural Heritage resources with environmental management	Lack of co-ordination with cultural resources management leads to misunderstandings	Integrate environmental and cultural heritage conservation management	Necessary	Client and Archaeologist	Check that plans dovetail	Annually
Develop disaster planning and fire management	Lack of planning can add to damage caused by disasters	Identify high risk areas and plan for potential problems caused by fire and natural and unusual erosion events	Necessary	Client	•Check that plans have been drawn up and are known to all staff	Annually

#### 4.6 *Decommissioning phase*

During the decommissioning and closure phase of the project, no new areas are expected to be disturbed and/or impacted. Subsequently, no additional sites of archaeological and heritage significance are expected to be impacted on during decommissioning. Furthermore, the majority of sites of archaeological and heritage significance (cultural and natural) would have been recorded and/or assessed in preceding phases.

- The appointed archaeologist must review management procedures and ensure that effective measures were implemented.
- A comprehensive feedback report should be submitted by the archaeologist to the client, and SAHRA.

### **5. IMPLEMENTATION AND REVIEW**

This document need to be implemented as soon as possible to comply with requirements for pre-construction work, the appointment of a qualified archaeological service provider and policy formulation.

The document and sub documents must be reviewed on an annual basis.

### **6. DOCUMENTATION MANAGEMENT**

The management of the core documents will have to be compliant with IFC and ISO standards. A documents register will have to be opened for the relevant documentation needed. This will include but not be limited to:

- Core Heritage Management Plan;
- Mitigation process and outcomes reports;
- Heritage Conservation Policy Document
- Research Policy Document
- Baseline condition report on all heritage sites and subsequent annual audits of site conditions for each site
- Documentation with regards to correspondence and meetings with SAHRA

# **ANNEXURE C: Site Numbers and Coordinates**

TYPE	LAT	LONG	X_COORD	Y_COORD
MHC001	-25.38302106	27.08598699	8653.2930322	-2808486.3945555
MHC002	-25.38496030	27.09022832	9079.9740905	-2808701.5024470
MHC002	-25.38551928	27.08889652	8945.9093972	-2808763.3357345
MHC003	-25.38475494	27.09098160	9155.7946738	-2808678.8043156
MHC004	-25.38541594	27.08547184	8601.2812731	-2808751.6630395
MHC005	-25.38866661	27.07267393	7313.1938500	-2809111.0061817
MHC006	-25.40394992	27.02037656	2050.2392382	-2810802.2410650
MHC007	-25.40887864	27.02417188	2432.0161678	-2811348.3033261
MHC008	-25.40885777	27.02514444	2529.8692211	-2811346.0094374
MHC009	-25.41104771	27.02774031	2790.9983077	-2811588.6605965
MHC010	-25.41230877	27.02755306	2772.1299474	-2811728.3557383
MHC011	-25.41109348	27.02672124	2688.4669759	-2811593.7100435
MHC012	-25.41538610	27.02936271	2954.1249575	-2812069.2983767
MHC013	-25.41817660	27.02333076	2347.2081877	-2812378.3077890
MHC014	-25.41759104	27.02554383	2569.8681368	-2812313.4807076
MHC015	-25.41319801	27.02998239	3016.5241927	-2811826.9175887
MHC016	-25.41628917	27.03023175	3041.5347262	-2812169.3591961
MHC017	-25.38258604	27.07219315	7265.1766963	-2808437.3822179
MHC018	-25.37059983	27.08685402	8741.4405030	-2807110.4443924
MHC019	-25.37269296	27.08783470	8839.9889779	-2807342.3827325
MHC020	-25.37286211	27.08669795	8725.5703077	-2807361.0462566
MHC020	-25.37379610	27.08691169	8747.0145691	-2807464.5262858
MHC021	-25.37462608	27.08400283	8454.2015634	-2807556.2831655
MHC022	-25.37720494	27.09044726	9102.5880855	-2807842.3887964
MHC023	-25.39691121	27.05208027	5240.4927945	-2810023.3657230
MHC024	-25.40150592	27.01261969	1269.7876704	-2810531.4009743

**Lat & Long Coordinates– WGS84**  
**X-Y Coordinates - LO27 – WGS84**