Archaeological Impact Assessment

For the proposed Zwartkop Industrial Development, Amandelbult, Limpopo Province

Prepared For

Tekplan Environmental

By

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

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EXECUTIVE SUMMARY

Site name and location: The proposed industrial township development is located on Portion 12 (a portion of portion 9) and Portion 26 (a portion of portion 16) of the Farm Zwartkop 369 KQ, Thabazimbi Local Municipality area, Waterberg District.

Purpose of the study: Phase 1 Archaeological Impact Assessment to determine the presence of cultural heritage sites and the impact of the proposed project on these resources within the area demarcated for the proposed development .

1:50 000 Topographic Map: 2427 CD

Environmental Consultant: Tekplan Environmental

Developer: Sebilong Communal Property Association.

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

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Date of Report: 5 December 2014

Findings of the Assessment:

The topography of the study area is relatively flat with no geographical features like drainage systems hills or rocky outcrops. The site is characterised by deep turf and some sections of the site is disturbed by exploration activities. Around the study area Iron Age settlements are concentrated along the Bierspruit and rocky outcrops or hills marked by ceramic clusters or dry stone walling. MSA material is also found in these areas especially at the base of hills and along watercourses (van Schalkwyk 2004 and van der Walt 2010). During the archival study documents were found proving that the farm Zwartkop on which the proposed project is located was established during the 19th century and graves and structures dating to this period have been recorded on the farm (to the south west of the study area, van der Walt 2010).

During the survey of the 1.4 ha footprint of the development no archaeological sites were recorded in the study area possibly due to the lack of shelters, knapping material or features in the landscape, like pans or rocky outcrops as areas more favourable for occupation occur to the south west of the study area.

Due to the lack of heritage sites or features in the proposed development footprint there are from an archaeological point of view no reason why the development cannot commence work based on approval from SAHRA.

According to SAHRIS the paleontological sensitivity of the area is insignificant and according to SAHRIS no further studies are required.

If during construction, any archaeological finds are made (e.g. stone tools, skeletal material), the operations must be stopped, and the archaeologist must be contacted for an assessment of the finds.

General

Due to the subsurface nature of archaeological material and unmarked graves the possibility of the occurrence of unmarked or informal graves and subsurface finds cannot be excluded. If during construction any possible finds such as stone tool scatters, artefacts or bone and fossil remains are made, the operations must be stopped and a qualified archaeologist must be contacted for an assessment of the find.

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

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ABBREVIATIONS

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

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

GLOSSARY

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

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

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

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

The Iron Age (~ AD 400 to 1840)

Historic (~ AD 1840 to 1950)

Historic building (over 60 years old)

1 BACKGROUND INFORMATION

Kind of study	Archaeological Impact Assessment
Type of development	Industrial township development
Developer:	Sebilong Communal Property Association
Consultant:	Tekplan Environmental

The Archaeological Impact Assessment report forms part of the (Basic Assessment) BIA for the proposed project.

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

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

During the survey no heritage sites were identified within the proposed footprint of the development. General site conditions and features on sites were recorded by means of photographs, GPS locations, and site descriptions. Possible impacts were identified and mitigation measures are proposed in the following report.

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

1.1 Terms of Reference

Desktop study

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

Field study

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

Reporting

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

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

1.2. Archaeological Legislation and Best Practice

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

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

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

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

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

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

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

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

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

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

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

Human remains older than 60 years are protected by the National Heritage Resources Act, with reference to Section 36. Graves older than 60 years, but younger than 100 years fall under Section 36 of Act 25 of 1999 (National Heritage Resources Act), as well as the Human Tissues Act (Act 65 of 1983), and are the jurisdiction of SAHRA. The procedure for Consultation Regarding Burial Grounds and Graves (Section 36[5]) of Act 25 of 1999) is applicable to graves older than 60 years that are situated outside a formal cemetery administrated by a local authority. Graves in this age category, located inside a formal cemetery administrated by a local authority, require the same authorisation as set out for graves younger than 60 years, in addition to SAHRA authorisation. If the grave is not situated inside a formal cemetery, but is to be relocated to one, permission from the local authority is required and all regulations, laws and by-laws, set by the cemetery authority, must be adhered to.

Human remains that are less than 60 years old are protected under Section 2(1) of the Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925), as well as the Human Tissues Act (Act 65 of 1983), and are the jurisdiction of the National Department of Health and the relevant Provincial Department of Health and must be submitted for final approval to the office of the relevant Provincial Premier. This function is usually delegated to the Provincial MEC for Local Government and Planning; or in some cases, the MEC for Housing and Welfare.

Authorisation for exhumation and 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. To handle and transport human remains, the institution conducting the relocation should be authorised under Section 24 of Act 65 of 1983 (Human Tissues Act).

1.3 Description of Study Area

1.3.1 Location Data

The proposed industrial township development is located on Portion 12 (a portion of portion 9) and Portion 26 (a portion of portion 16) of the Farm Zwartkop 369 KQ, Thabazimbi Local Municipality area, Waterberg District. The site is located approx. 5km north of Amandelbult Mine next to the R510 (road between Thabazimbi and Northam) that forms the eastern boundary of the site. Access to the proposed development area is also from the R510. The topography of the area is relatively flat characterised by deep turf. The study area falls within a Savannah Biome with the bioregion described by Mucina *et al* (2006) as the Central Bushveld Bioregion with the vegetation described as Dwaalboom Thornveld. Land use in the general area is characterized by agriculture, dominated by game and cattle farming as well as chrome mines.

1.3.2. Location Map

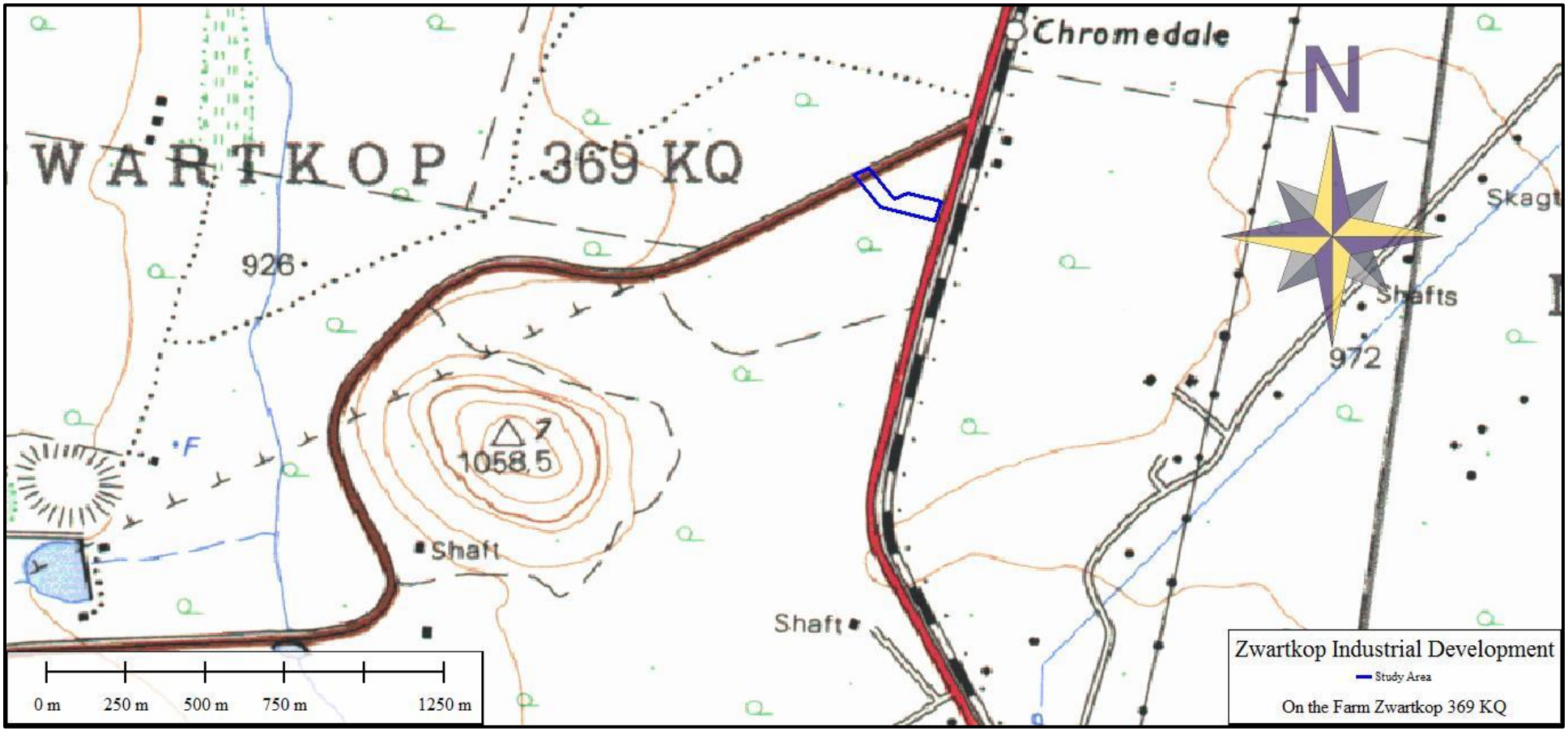

Figure 1: Location map showing the study area in blue.

2. APPROACH AND METHODOLOGY

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

2.1 Phase 1 - Desktop Study

The first phase comprised a desktop study scanning existing records for archaeological sites, historical sites, graves, architecture (structures older than 60 years) of the area.

2.1.1 Literature Search

Utilising data for information gathering stored in the archaeological database at Wits and previous CRM reports done in the area. The aim of this is to extract data and information on the area in question.

2.1.2 Information Collection

The SAHRA report mapping project (Version 1.0) and SAHRIS was consulted to collect data from previously conducted CRM projects in the region to provide a comprehensive account of the history of the study area.

2.1.3 Consultation

A Public consultation process is facilitated by Tekplan.

2.1.4 Google Earth and Mapping Survey

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

2.1.5 Genealogical Society of South Africa

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

2.2 Phase 2 - Physical Surveying

Due to the nature of cultural remains, the majority of which occurs below surface, a field survey of the study area of 1,25 ha was conducted. The study area was surveyed by means of vehicle and extensive surveys on foot by a professional archaeologist on the 28th of November 2014.

No sites were discovered inside the proposed development area.

2.3. Restrictions

Due to the fact that most cultural remains may occur below surface, the possibility exists that some features or artefacts may not have been discovered/ recorded during the survey. Low ground visibility of parts of the study area is due to high vegetation, and the possible occurrence of unmarked graves and other cultural material cannot be excluded.

Only the surface infrastructure footprint area was surveyed as indicated in the location map, and not the entire farm. Although HCAC surveyed the area as thoroughly as possible, it is incumbent upon the developer to stop operations and inform the relevant heritage agency should further cultural remains, such as stone tool scatters, artefacts, bones or fossils, be exposed during the process of development.

3. NATURE OF THE DEVELOPMENT

The proposed project consists of an industrial township development (to be known as the Zwartkop Industrial Development) measuring an area of 1,41 ha in extent. The development will consist of the following 3 erven; one erf zoned " Special" for access & access control covering an area of 0.16 ha, and two erven (zoned as "Industrial 2") covering an area of 1,25 ha in extent.

One of the industrial erven covering an area of 0.80ha will be used as a brick yard (to be known as the Sebilong Community Brick Yard Project) for the manufacturing of cement bricks. The brick yard will consist of the following components:

- stacking area,
- batching area,
- curing area,
- small admin and ablution block
- parking area.
- Associated engineering infrastructure viz. water, sewerage, access roads, etc. will also be installed.

4. HISTORICAL AND ARCHAEOLOGICAL BACKGROUND OF THE STUDY AREA

4.1 Databases Consulted

On the 1.50 000 map sheet 2427 CD several sites are on record for the larger study area at the Wits Archaeological database. Several previous CRM surveys are on record for the larger study area e.g. van Schalkwyk (2004) Huffman (2006) and vd Walt (2010). These sites consist of MSA open air sites, LIA stone walled settlements and graves the closest are located 1.5 km to the south west of the study area.

Genealogical Society and Google Earth Monuments

Neither the Genealogical Society nor the monuments database at Google Earth (Google Earth also include some archaeological sites and historical battlefields) have any recorded sites in the study area.

4.2 Background Information for the study Area

4.2.1 Archaeological Background

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

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

The archaeology of the area can be divided into the Stone Age, 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.

Earlier Stone Age: The period from ± 2.5 million yrs - ± 250 000 yrs ago. Acheulean stone tools are dominant:

The Early Stone Age in southern Africa is defined by the Oldowan complex, primarily found at the sites Sterkfontein, Swartkrans and Kroomdraai, situated within the Cradle of Humankind, just outside Johannesburg (Kuman, 1998). Within this complex, tools are more casual and expediently made and tools consist of rough cobble cores and simple flakes. The flakes were used for such activities as skinning and cutting meat from scavenged animals. This industry is unlikely to occur in the study area.

The second complex is that of the more common Acheulean, defined by large handaxes and cleavers produced by hominids at about 1.4 million years ago (Deacon & Deacon, 1999). Among other things these Acheulian tools were probably used to butcher large animals such as elephants, rhinoceros and hippopotamus that had died from natural causes. Acheulian artefacts are usually found near the raw material from where they were quarried, at butchering sites, or as isolated finds. No Acheulian sites are on record near the project area, but isolated finds are possible. However, isolated finds have little value.

Therefore, the project is unlikely to disturb a significant site. The presence and significance of finds will be determined by a field investigation.

Middle Stone Age: Various lithic industries in SA dating from ± 250 000 yrs – 22 000 yrs before present.

During the Middle Stone Age, significant changes start to occur in the evolution of the human species. These changes manifest themselves in the complexity of the stone tools created, as seen in the diversity of tools, the standardisation of these tools over a wide spread area, the introduction of blade technology, and the development of ornaments and art. What these concepts ultimately attest to is an increase or development of abstract thinking. By the beginning of the Middle Stone Age (MSA), tool kits included prepared cores, parallel-sided blades and triangular points hafted to make spears (Volman, 1984). MSA people had become accomplished hunters by this time, especially of large grazing animals such as wildebeest, hartebeest and eland.

These hunters are classified as early humans, but by 100,000 years ago, they were anatomically fully modern. The oldest evidence for this change has been found in South Africa, and it is an important point in debates about the origins of modern humanity. In particular, the degree to which behaviour was fully modern is still a matter of debate. The repeated use of caves indicates that MSA people had developed the concept of a home base and that they could make fire. These were two important steps in cultural evolution (Deacon & Deacon, 1999). Accordingly, if there are caves in the study area, they may be sites of archaeological significance.

MSA artefacts are common throughout southern Africa, but unless they occur in undisturbed deposits, they have little significance. Some MSA sites are on record close to the study area.

Later Stone Age: The period from ± 22 000-yrs before present to the period of contact with either Iron Age farmers or European colonists.

By the Late Stone Age, human beings are anatomically and culturally modern. Tools associated with this time period are specialised, and commonly associated with hunter-gatherer groups. It is also within this period that contacts with migrating groups occur throughout southern Africa. Initial contact was between hunter-gatherer groups and expanding Bantu farming societies, and secondly with the arrival of colonist along the coast.

San rock art has a well-earned reputation for aesthetic appeal and symbolic complexity (Lewis-Williams, 1981). Several rock art sites are on record to the north and east of the general project area.

In addition to art, LSA sites contain diagnostic artefacts, including microlithic scrapers and segments made from very fine-grained rock (Wadley, 1987). Spear hunting probably continued, but LSA people also hunted small game with bows and poisoned arrows. Sites in the open are usually poorly preserved and therefore have less value than sites in caves or rock shelters. If there are rock shelters or caves in the study area, they may contain LSA sites of significance.

Iron Age (general)

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

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

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

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

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

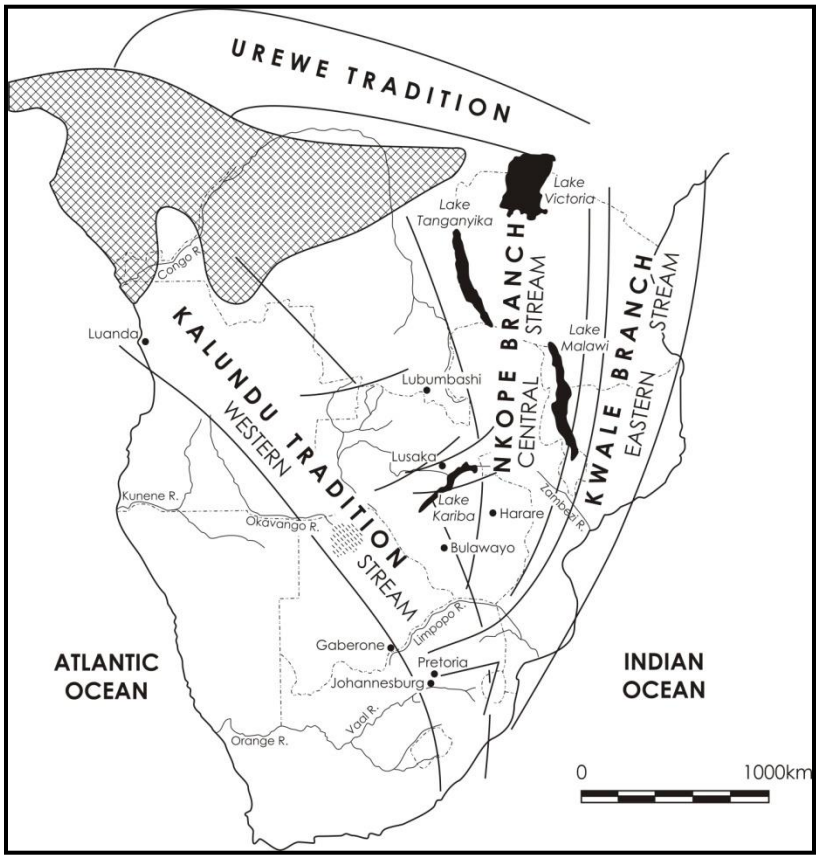

Figure 2: Movement of Bantu speaking farmers (Huffman 2007)

Early Iron Age

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

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

Middle Iron Age

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

Late Iron Age

For the area in question the history and archaeology of the Sotho Tswana are of interest. The ceramic sequence for the Sotho Tswana is referred to as Moloko and consists of different facies with origins in either the Icon facies or a different branch associated with Nguni speakers. Several sites belonging to the Madikwe and Olifantspoort facies (from Icon) have been recorded close to the project area. These sites date to between AD 1500 and 1700 and predate stone walling ascribed to Sotho-Tswana speakers. Sotho Tswana stonewalled sites with Uitkomst pottery have been found close to the study area and dates to the seventeenth to nineteenth centuries. Stone walled sites belonging to the LIA have also been identified next to the study area but so far have not been linked to a cultural group.

Late Iron Age peoples were attracted to the area because of the relatively fertile soils around the hills and valleys, and because of the iron ore and red ochre. Mining techniques associated with the ancient mine workings are the same as those found in the Rooiberg area some 30km from Thabazimbi (Huffman 2006). Three groups are found in the Rooiberg area, specifically Madikwe, Melora and Rooiberg groups. Strategraphically, the relationship between Madikwe and Rooiberg is evident where the Madikwe site 20/85 lies underneath the Rooiberg site 11/85, suggesting that Rooiberg is the more recent (Mason 1986). Ceramic evidence suggests then that at one time Sotho-Tswana people were mining at Rooiberg. The ceramic evidence from the Rhino Andalusite Mine shows that the Sotho-Tswana people living there were directly related to the miners at Rooiberg: both belonged to the Western Sotho-Tswana cluster. Therefore the relationship between the ochre mine and Madikwe settlements is great. Associated with the Madikwe settlements, in addition to the ochre mine is the several maize grindstones found.

Trade connections for ochre and tin have a bearing on the presence of maize. Trade networks spanned a wide area, up to the Zimbabwe culture area in the north, and as far as Maputo in the east before the arrival of the Dutch (Friede & Steel 1976). Maize came to Maputo sometime after the early 16th century through Portuguese trade with the New World. The grindstones found at the site CB14 in the Rhino Andalusite Mine indicate that maize was grown in the Thabazimbi area during the 17th century (Huffman 2006). If one accepts the grindstone as diagnostic, then maize was cultivated some 150 years earlier than in Kwazulu-Natal.

Evidence for Iron Age activity will most likely be concentrated along water courses and rocky outcrops marked by ceramic clusters or dry stone walling.

4.3. Historical Background

The historic timeframe sometimes intermingles with the later parts of the Stone and Iron Age, and can loosely be regarded as times when written and oral accounts of incidents became available. An archival study on the farms in question revealed the following.

A number of 1046 documents relating to Zwartkop were found in the National Archives Depot in Pretoria. However, most of these documents refer to other farms with the same name as those investigated.

No applicable information could be obtained from the Deeds Office (Deeds Office 1367526). Apparently the department is busy to computerize all records and transfer it to deeds offices in the different provinces resulting in it not being possible to trace everything at the moment.

The first white farmers however settled in this part of the country after 1841. It therefore is possible that these three farms may date back to the middle of the 19th century (Bergh 1999: 15). The district of Waterberg was established in 1866 (Bergh 1999: 139). This indicates that there must have been enough people to make the establishment of a district a viable option.

As indicated earlier, 1064 documents relating to the name Zwartkop was obtained from the National Archives Depot. Most of these related to farms at Kenhardt in the Northern Cape, Pietermaritzburg in Kwazulu-Natal and Pretoria in Gauteng. Only a few documents had useful information.

The oldest date obtained refers to the estate of the late C J Becker. It indicates that he was the owner of this farm until his death in 1893 (NAD, TAB, SS000, R11460/93). Two other documents refer to amounts that are owed for taxes on the farm. These documents are both dated to 1894 (NAD, TAB, SP 41, SPR 111/94; NAD, TAB, SP 42, SPR 111/94). These documents give proof that the farm was established during the 19th century, but unfortunately not much more can be learned from them.

At some stage the farm was leased to a certain LMM Charlie, but unfortunately no date is given (NAD, SAB, URU 1138, 1723). It seems as if the farm was already used for mining (or at least prospecting) during 1937 (NAD, SAB, LDE 2147, 104/1).

5. HERITAGE SITE SIGNIFICANCE AND MITIGATION MEASURES

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

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

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

Furthermore, The National Heritage Resources Act (Act No 25 of 1999, Sec 3) distinguishes nine criteria for places and objects to qualify as 'part of the national estate' if they have cultural significance or other special value. These criteria are:

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

5.1. Field Rating of Sites

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

FIELD RATING	***GRADE***	***SIGNIFICANCE***	***RECOMMENDED MITIGATION***
National Significance (NS)	Grade 1	-	Conservation; national site nomination
Provincial Significance (PS)	Grade 2	-	Conservation; provincial site nomination
Local Significance (LS)	Grade 3A	High significance	Conservation; mitigation not advised
Local Significance (LS)	Grade 3B	High significance	Mitigation (part of site should be retained)
Generally Protected A (GP.A)	-	High/medium significance	Mitigation before destruction
Generally Protected B (GP.B)	-	Medium significance	Recording before destruction
Generally Protected C (GP.C)	-	Low significance	Destruction

6. BASELINE STUDY-DESCRIPTION OF SITES

It is important to note that the entire farm was not surveyed but only the footprint of the proposed industrial township development as indicated in Figure 1. Forming part of the Bushveld Igneous Complex, the Thabazimbi area is known for its iron ore. Topographically, the area around the study area is flat open veld with stretches of more dense vegetation (Dichrostachys shrubs) and a number of large hills and outcrops, although none exist in the current project area. The south eastern portion of the study area is disturbed by mining activities. To the south west of the project area is the Rietspruit that runs in a north south direction and have been the water source for communities living in the area in antiquity. The hill Mooskop 1.4 km to the south west of the project area also have MSA artefacts scattered around the hill and several LIA stone walled enclosures. Although the larger area contains several archaeological sites no sites of heritage significance were identified inside the proposed industrial township.

Figure 3: Google Image of the study area (in blue) with track logs of the area covered in black

Figure 4. General Site Conditions.

Figure 5. Study area with Mooskop in the background.

Figure 6. Disturbed area.

Figure 7. Existing industrial activities in the study area.

6.1. Paleontological Study

According to SAHRIS the paleontological sensitivity of the area is insignificant and according to SAHRIS no further studies are required.

7. RECOMMENDATIONS AND CONCLUSIONS

CRM surveys, e.g. van Schalkwyk (2004), van der Walt (2010) conducted adjacent to the study area and Huffman (2006) to the north provides a good basis for understanding the local archaeology. From these studies it is clear that evidence for Iron Age activity will most likely be concentrated along water courses and rocky outcrops or hills marked by ceramic clusters or dry stone walling. MSA material is also found in these areas especially at the base of hills and along watercourses. During the archival study documents were found proving that the farm Zwartkop on which the proposed project is located was established during the 19th century.

During the survey of the 1.4 ha footprint of the development no sites were recorded in the study area and due to the lack of shelters, knapping material or features in the landscape, like pans or rocky outcrops, no Stone Age or Iron Age Sites occur as areas more favourable for occupation occur to the south west of the study area.

Due to the lack of heritage sites or features in the proposed development footprint there is from an archaeological point of view no reason why the development cannot commence work based on approval from SAHRA.

According to SAHRIS the paleontological sensitivity of the area is insignificant and according to SAHRIS no further studies are required.

If during construction, any archaeological finds are made (e.g. stone tools, skeletal material), the operations must be stopped, and the archaeologist must be contacted for an assessment of the finds.

8. PROJECT TEAM

Jaco van der Walt, Project Manager

9. STATEMENT OF COMPETENCY

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

I have been involved in research and contract work in South Africa, Botswana, Zimbabwe, Mozambique, Tanzania and the DRC; having conducted more than 400 AIAs since 2000.

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