ARCHAEOLOGICAL IMPACT ASSESSMENT

FOR THE PROPOSED THABAZIMBI EXT 69 DEVELOPMENT, LIMPOPO PROVINCE

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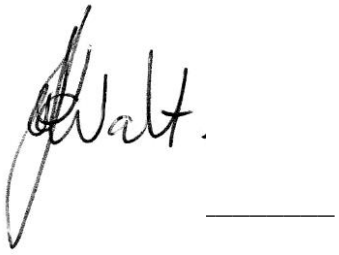
SIGNATURE:  _____

EXECUTIVE SUMMARY

Site name and location: The proposed Thabazimbi Ext 69 development area is located on Portion 6 of the Farm Aapiesdoorn 316 KQ. The application property is situated at Thabazimbi in the Thabazimbi Municipal area, Limpopo Province.

1: 50 000 Topographic Map: 2427 CB.

EIA Consultant: Tekplan Environmental.

Developer: Moloto Eco Developments (Pty) Ltd.

Heritage Consultant: Heritage Contracts and Archaeological Consulting CC (HCAC).
Contact person: Jaco van der Walt Tel: +27 82 373 8491 E –mail jaco.heritage@gmail.com.

Date of Report: 14 January 2016.

Findings of the Assessment:

In terms of the built environment of the area (Section 34), no standing buildings older than 60 years occur within the study area. The study area was also assessed in terms of the archaeological component of Section 35 of the NHRA and the ephemeral remains of a Late Iron Age settlement was recorded in the north-western portion of the study area. The site is of low heritage significance due to disturbance to the site and the lack of features that can be excavated. The paleontological component was not included in the scope of work for this study. No buildings exist on the site and no cultural landscape elements were noted. Visual impacts to scenic routes and sense of place are not assessed to be high from a heritage perspective but are assessed independently by a visual specialist as part of the EIA process.

The impacts to heritage resources by the proposed development are not considered to be highly significant and the impact on archaeological sites can very easily be mitigated. Based on the results of the study there are no significant archaeological risks associated with the proposed project if the following **recommendations** are implemented:

- It is recommended that site 1 is preserved *in-situ* with in the development and that a Mini site management plan is developed for the site to ensure the continued protection of the site;
- If this is not possible the site must be mapped and test excavated before a destruction permit can be applied for;
- A chance finds procedure is included within the EMP

There were no red flags identified during the AIA although some management actions are necessary to manage the recorded heritage sites in an appropriate manner. Subject to approval from SAHRA there is, from an archaeological point of view, no reason why the development should not proceed if the recommendations as made in this report are adhered to.

General

Due to the subsurface nature of archaeological material and unmarked graves, the possibility of the occurrence of such 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/s.

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

Heritage Contracts and Archaeological Consulting CC (**HCAC**) was appointed to conduct an Archaeological Impact Assessment for the proposed Thabazimbi Ext 69 Development as part of the Basic Assessment process.

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

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

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

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

1.1. Terms of Reference

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

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

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

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

1.2. Archaeological Legislation and Best Practice

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

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

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

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

Minimum accreditation requirements include an Honours degree in archaeology or related discipline and 3 years post-university CRM experience (field supervisor level).
Minimum standards for reports, site documentation and descriptions are set by ASAPA in collaboration with SAHRA. ASAPA is based in South Africa, representing professional archaeology in the SADC region. ASAPA is primarily involved in the overseeing of ethical practice and standards regarding the archaeological profession. Membership is based on proposal and secondment by other professional members.
Phase 1 AIA's are primarily concerned with the location and identification of sites situated within a proposed development area. Identified sites should be assessed according to their significance. Relevant conservation or Phase 2 mitigation recommendations should be made. Recommendations are subject to evaluation by SAHRA.

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

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

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

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

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

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

Authorisation for exhumation and reinternment must also be obtained from the relevant local or regional council where the grave is situated, as well as the relevant local or regional council to where the grave is being relocated. All local and regional provisions, laws and by-laws must also be adhered to. To handle and transport human remains, the institution conducting the relocation should be authorised under Section 24 of Act 65 of 1983 (Human Tissues Act).

1.3. Description of Study Area

1.3.1 Location Data

The proposed development area is located on Portion 6 of the Farm Aapiesdoorn 316 KQ. The application property is situated at Thabazimbi, in the Thabazimbi Municipal area, Limpopo Province. The site is located at 24° 35' 44.7044" S, 27° 23' 07.5013" E and is accessible from a dirt road. The site is located approximately 2.7 km West from Thabazimbi city centre. The study area is a Green Fields site. The topography of the area is relatively steep. 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 mining and agriculture, dominated by game and cattle farming as well as iron ore mines.
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1.3.2. Location Map

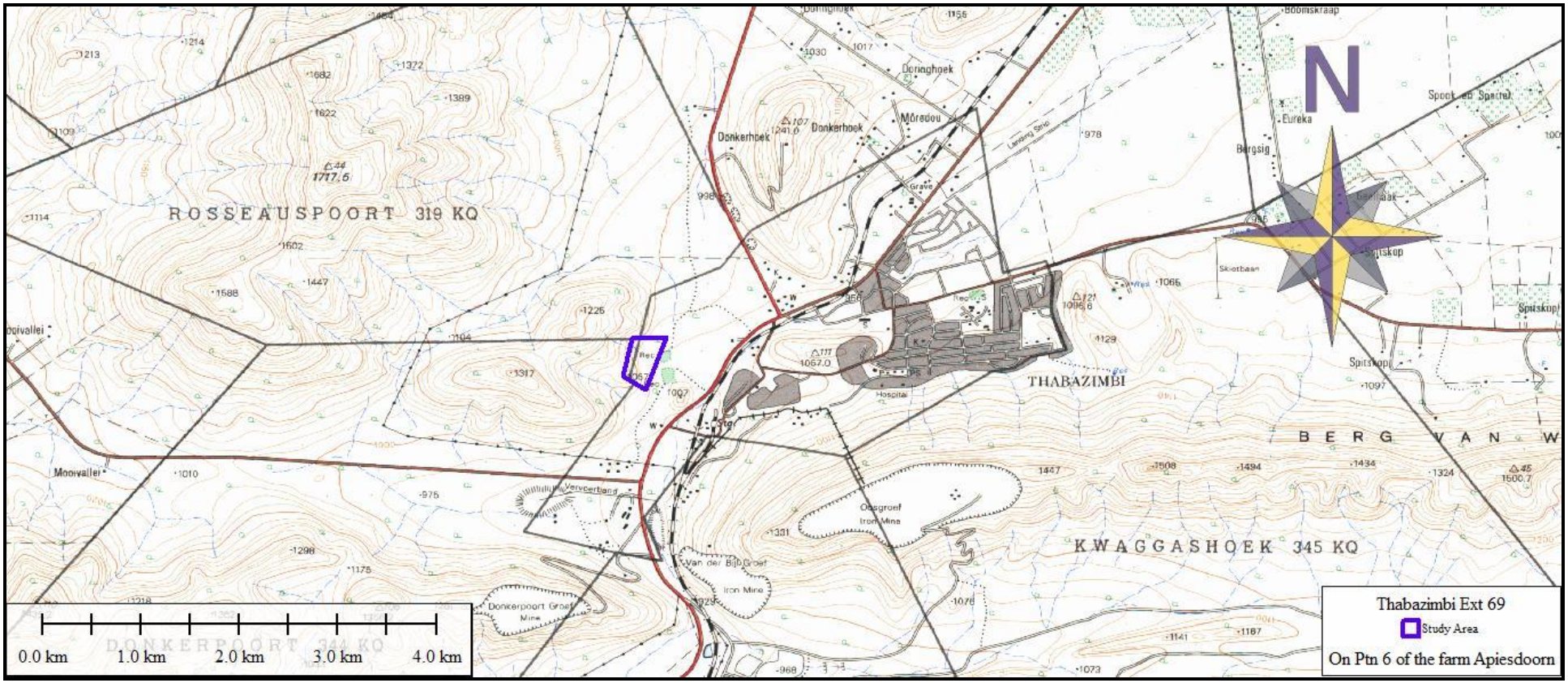

Figure 1: Location map

2. APPROACH AND METHODOLOGY

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

2.1 Phase 1 - Desktop Study

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

2.1.1 Literature Search

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

2.1.2 Information Collection

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

2.1.3 Consultation

No public consultation was done by the author as this was done independently as part of the BA. The farm owner Dr Wilhelm Schack was however consulted but he is not aware of any sites on his property.

2.1.4 Google Earth and Mapping Survey

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

2.1.5 Genealogical Society of South Africa

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

2.2 Phase 2 - Physical Surveying

Due to the nature of cultural remains, the majority of which occurs below surface, a field survey of the proposed development was conducted. The study area was surveyed by means of vehicle and extensive pedestrian surveys on 8 January 2016. The survey was aimed at covering the proposed development footprint, focussing on specific areas on the landscape that would be more likely to contain archaeological and/or other heritage remains like drainage lines, rocky outcrops as well as slight elevations in the natural topography. These areas were searched more intensively, but many other areas were walked in order to confirm expectations in those areas. Track logs of the areas covered were taken (Figure 2).

Figure 2: Track logs of the areas surveyed indicated in black with the development footprint indicated in blue.

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 and the possible occurrence of unmarked graves and other cultural material cannot be excluded. This report only deals with the footprint area of the proposed development as indicated in the location map.

Although HCAC surveyed the area as thoroughly as possible, it is incumbent upon the developer to stop operations and inform the relevant heritage agency should further cultural remains, such as graves, stone tool scatters, artefacts, bones or fossils, be exposed during the process of development.

3. NATURE OF THE DEVELOPMENT

Establishment of a township measuring approximately 12,5 hectares and which will consist of the following:

- 200 "Residential" 1 Erven
- 4 "Residential 4" Erven (±55 dwelling units)
- 4 "Business 1" Erven
- "Institutional" Erven
- 4 "Public Open Space" Erven
- Roads
- Engineering services like sewage, water supply and electricity will be installed

4. HISTORICAL AND ARCHAEOLOGICAL BACKGROUND OF THE STUDY AREA

4.1 Databases Consulted

Several CRM reports are on record for the wider study area. The reports include Kusel (2007) and Hutten (2012), who did not record any sites. Huffman (2006), who assessed two farms to the south west of the study area (Tygerkloof and Buffelsfontein) recorded rock art, mining heritage and Early and Late Iron Age sites. Van der Walt & du Piesanie (2009) and van der Walt (2009 and 2014) who recorded several Iron Age sites on the farm Moddergat also to the South West. Van Schalkwyk (2004) conducted mitigation (that included the survey and mapping of Iron Age sites) in and around the Madeleine Robinson Nature Reserve of the Amandelbult Platinum Mine, as part of the proposed extension of the mines operations into the area.

Mitigation of the Rhino Andalusite Mine to the south west of the study area by Archaeological Resources Management (ARM) (Huffman 2006) resulted in the excavation and recording of several Early and Late Iron Age sites to the north of the study area. Specifically, the Happy Rest and Mzonjani facies (EIA) and the Icon and Madikwe facies of the Moloko group (LIA) have been identified. Additionally, ancient mine workings for ochre have been identified.

Closer to the study area (north) at Regorogile Kussel (2003) conducted a study for a housing development and did not record any sites. Another study by Kusel (2007) to the west on the farm Hanover also yielded no heritage sites.

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. Brief background to the study area

4.2.1. Earlier Stone Age

Hominids began to make stone tools about 2.6 million years ago. Known as the Oldowan industry, most of the earliest tools were rough cobble cores and simple flakes. The flakes were used for such activities as skinning and cutting meat from scavenged animals. These early artefacts are difficult to recognize and have so far only been found in rock shelters such as the Sterkfontein Caves (Kuman, 1998); they are unlikely to occur in the study area.

At about 1.4 million years ago hominids started producing more recognizable stone artefacts such as hand axes, cleavers and core tools (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.

4.2.2. Middle Stone Age

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).

MSA artefacts have been found in the Oliboompoort Cave to the south of Lephalale (Mason, 1962; M. van der Ryst, 2006) and in the wider region at Marakele, as well as on the following farms New Belgium 608 LR, Schurfpoort 112 KR and Goergap 113 KR (Birkholtz & Steyn 2002).

4.2.3. Later Stone Age

By the beginning of the Later Stone Age (LSA), human behaviour was undoubtedly modern. Uniquely human traits, such as rock art and purposeful burials with ornaments, became a regular practice. These people were the ancestors of the San (or Bushmen).

San rock art has a well-earned reputation for aesthetic appeal and symbolic complexity (Lewis-Williams, 1981). A Single rock art site is located on the farm Tygerkloof (Huffman 2004). 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. Important LSA deposits have been excavated in Oliboompoort Cave (Mason, 1962) and other sites in the Waterberg to the north east (Van der Ryst, 1998).

4.2.4. The Iron Age (AD 400 to 1840)

Bantu-speaking people moved into Eastern and Southern Africa about 2,000 years ago (Mitchell, 2002). These people cultivated sorghum and millets, herded cattle and small stock and manufactured iron tools and copper ornaments. Because metalworking represents a new technology, archaeologists call this period the Iron Age. Characteristic ceramic styles help archaeologists to separate the sites into different groups and time periods. The first 1,000 years is called the Early Iron Age.

As mixed farmers, Iron Age people usually lived in semi-permanent settlements consisting of pole-and-daga (mud mixed with dung) houses and grain bins arranged around a central area for cattle (Huffman, 1982). Usually, these settlements with the 'Central Cattle Pattern' (CCP) were sited near water and good soils that could be cultivated with an iron hoe. For the project area, archaeological sites such as these are unlikely to occur except along river terraces.

Archaeologists have not yet resolved the role of a special pottery, known as Bambata, in the spread of pastoralism and mixed farming (Huffman, 2007). Some believe that Bambata pottery represents the vanguard of the Early Iron Age, or alternatively, Khoe pastoralists, while others believe it was acquired by LSA people through trade. This pottery has been found at Oliboompoort in LSA deposits (Mason, 1962; Van der Ryst, 2006) and is thus believed to exist in the general region.

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 Olifantspoortfacies (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. Stratigraphically, 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, there is a strong relationship between the ochre mine and Madikwe settlements. Associated with the Madikwe settlements several maize grindstones were found as well.

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. Some Iron Age settlements are on record to the north and west of the study area (Pistorius 2009).

5. HERITAGE SITE SIGNIFICANCE AND MITIGATION MEASURES

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

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

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

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

5.1. Field Rating of Sites

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

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 development that was surveyed on foot (Figure 1 & 2). The area identified for the development measures approximately 12ha.

Topographically, the western portion of the study area is located partially on a mountain slope with a single drainage line between two hills. The western portion of the study area flattens out and is bordered by the Thabazimbi industrial area (Figure 6). Vegetation consists of Dichrostachys shrubs and the only structures on site consist of disused game pens. Informal settlements are located on the northern and southern peripheries of the study area. A powerline traverses the study area in a roughly north to south axis.

The study area was assessed in terms of the archaeological component of Section 35 of the NHRA and the ephemeral remains of a Late Iron Age settlement was recorded in the north-western portion of the study area. In terms of the built environment of the area (Section 34), no standing buildings older than 60 years occur within the study area.

A Late Iron Age settlement (Figure 8) was recorded consisting of various enclosures consisting of single circular enclosures (24° 35' 44.9087" S, 27° 23' 06.6228" E) measuring approximately 12 meters in diameter. A more complex set of walling is also recorded (24° 35' 42.9036" S, 27° 23' 05.1433" E) but is so overgrown that it was not possible to determine site layout. Cultural material consists of undecorated ceramics, stone cairns (24° 35' 43.5876" S, 27° 23' 06.7776" E) measuring 2.5 X 1.5 meter and a large midden with bone fragments (24° 35' 42.5040" S, 27° 23' 07.7999" E). The site is impacted on by the current power line and land altering activities in the past. No other archaeological features were recorded like burned houses etc. that can be excavated and the site is therefore of low heritage significance and given a field rating of generally protected B.

No burial grounds or graves were recorded apart from the recent skeletal remains of a deceased person on the mountain. No significant cultural landscapes or viewscapes were noted during the fieldwork mainly due to the extensive mining activities visible in the area surrounding the study area.

Figure 3. North eastern portion of the study area.

Figure 4. North western portion of study area.

Figure 5. Disused game pens.

Figure 6. Informal settlement on southern side of study area.

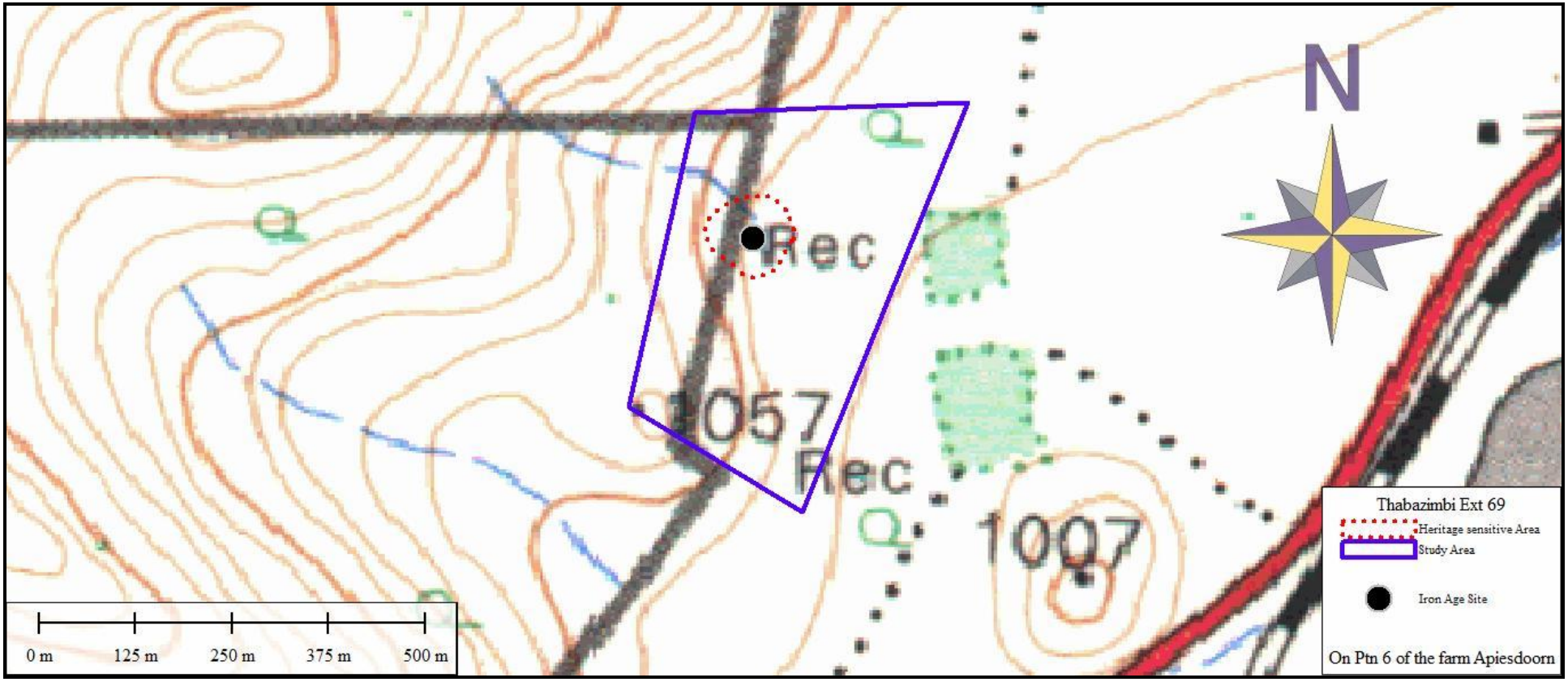

Figure 7: Site distribution map.

Figure 8: Late Iron Age Stone walls

7. CONCLUSIONS AND RECOMMENDATIONS

Heritage Contracts and Archaeological Consulting CC (HCAC) has been contracted by Tekplan Environmental to conduct an Archaeological Impact Assessment for the proposed Thabazimbi Ext 69 development that is located on Portion 6 of the Farm Aapiesdoring 316 KQ, Limpopo Province. The proposed study area measures approximately 12ha. It is important to note that the entire farm Aapiesdoring 316 KQ was not surveyed but only the footprint of Ext 69 that was surveyed on foot.

In terms of the built environment of the area (Section 34), no standing buildings older than 60 years occur within the study area. The study area was assessed in terms of the archaeological component of Section 35 of the NHRA and the ephemeral remains of a Late Iron Age settlement was recorded in the north-western portion of the study area.

The site is of low heritage significance due to disturbance to the site and the lack of features that can be excavated. For the area in question the archaeology of the Sotho Tswana is 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 in the larger study area. These sites predate stone walling ascribed to Sotho-Tswana speakers and date to between AD 1500 and 1700 and therefore the recorded site cannot be classified to this group.

Sotho Tswana stonewalled sites with Uitkomst pottery have been found close to the study area and dates to the seventeenth to nineteenth centuries, sites with Rooiberg pottery was also recorded dating to AD 1650 - 1750. A larger ceramic sample is however needed to classify the recorded site. The paleontological component was not included in the scope of work for this study.

The impacts to heritage resources by the proposed development are not considered to be highly significant and the impact on archaeological sites can very easily be mitigated. Based on the results of the study there are no significant archaeological risks associated with the proposed project if the following recommendations are implemented:

- It is recommended that site 1 is preserved *in-situ* with in the development and that a Mini site management plan is developed for the site to ensure the continued protection of the site;
- If this is not possible the site must be mapped and test excavated before a destruction permit can be applied for;
- A chance finds procedure is included within the EMP as detailed below.

Chance find procedure

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

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

7.1 Reasoned Opinion

From a heritage perspective, the proposed project area is acceptable from an archaeological point of view. If the above recommendations are adhered to and based on approval from SAHRA, HCAC is of the opinion that the development can continue as the development will not impact negatively on the archaeological record of the area. If during the pre-construction phase or during construction, any archaeological finds are made (e.g. graves, stone tools, and skeletal material), the operations must be stopped, and the archaeologist must be contacted for an assessment of the finds. Due to the subsurface nature of archaeological material and graves the possibility of the occurrence of unmarked or informal graves and subsurface finds cannot be excluded, but can be easily mitigated by preserving the sites *in-situ* within the development.

8. PROJECT TEAM

Jaco van der Walt, Project Manager

9. STATEMENT OF COMPETENCY

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

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

10. REFERENCES

Archaeological Database Wits University 2009

Bergh, J.S., (ed.) Geskiedenisatlas van Suid-Afrika.Die vier noordelike provinsies. Pretoria: J. L. van Schaik Uitgewers. 1999.

Birkholtz, P.D & Steyn H.S. 2002.Cultural Resource Management Plan for Marakele National Park. Produced for San Parks.

Deacon, H.J., Deacon, J., 1999.Human beginnings in South Africa. David Philip, Cape Town.

Huffman, T.N. 2007. Handbook to the Iron Age: The Archaeology of Pre-Colonial Farming Societies in Southern Africa. University of KwaZulu-Natal Press, Scotsville.

Huffman, T.N. 2006. Archaeological Mitigation of the Rhino Mine. Unpublished report.

Hutten, M. 2012. Heritage Impact Assessment for the proposed Kambaku Private school on the farm Vlakplaats 137 KQ , approximately 15 km north of Thabazimbi, Limpopo Province.

Kuman, K., 1998. The earliest South African Industries. In: Lower Palaeolithic Settlement of the Old World. Eds by M.D. Petraglia and R. Korisetter, pp 151-186. Routledge Press, London.

Kusel, U. 2003. Cultural Heritage Resources Scoping Report Proposed Housing Development for Regorogile (Rosseauspoort 319 KQ Sec 5)

Kusel, U. 2007. Cultural Heritage Resources Impact Assessment Of Hanover 341 Kq In The Thabazimbi Area Limpopo Province

Lewis-Williams, J.D., 1981. Believing and Seeing: Symbolic Meanings in southern San Rock Paintings. Academic Press, London.

Mason, R.J., 1962. The Prehistory of the Transvaal. Witwatersrand University Press, Johannesburg.

Mitchell, P., 2002. The Archaeology of Southern Africa. Cambridge University Press, Cambridge.

Mucina, L. & Rutherford, M.C. 2006. The Vegetation of South Africa, Lesotho and Swaziland. Strelitzia 19. South African

National Heritage Resources Act NHRA of 1999 (Act 25 of 1999)

Rasmussen, R.K. 1978 Migrant kingdom: Mzilikaqzi's Ndebele in South Africa. London: Rex Collings

Ross, R. A concise history of South Africa. Cambridge University Press. Cambridge. 1999.

SAHRA Report Mapping Project Version 1.0, 2009

SAHRIS (Cited 2016)

Van der Ryst, M.M., 2006. Seeking Shelter: Later Stone Age Hunters, Gatherers and Fishers of Oliboompoort in the western Waterberg south of the Limpopo. Unpublished doctoral thesis, University of the Witwatersrand, Johannesburg

Van der Ryst, M.M., 1998. The Waterburg Plateau in the Northern Province, Republic of South Africa, in the Later Stone Age. BAR International Series 715, Oxford.

Van der Walt, J. & du Piesanie, J. 2009. AIA for Chronimet, Thabazimbi, Limpopo Province.

Van der Walt, J. 2009. Archaeological Impact Assessment Chronimet Underground Mine And Process Plant, Amandelbult, Limpopo Province.

Van der Walt, J. 2014. Archaeological Impact Assessment For the proposed Zwartkop Industrial Development, Amandelbult, Limpopo Province.

Van Schalkwyk, J. 2004. The Surveying And Mapping Of Archaeological Sites On The Farm Elandsfontein 386 Kq, Amandelbult Platinum Mine Thabazimbi District, Limpopo Province

Volman, T.P., 1984. Early prehistory of southern Africa. In: Southern African Prehistory and Paleoenvironments. Ed by R.G. Klein, pp. 169-220. A.A. Balkema, Rotterdam.

Wadley, L., 1987. Later Stone Age Hunters and Gatherers of the southern Transvaal. BAR International Series 380, Oxford.