PHASE 1 HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED PROSPECTING ACTIVITIES ALONG THE R81 ROUTE FROM GIYANI TO MAPHALLE ON THE REMAINING EXTENT OF FARM GREATER GIYANI 891 LT WITHIN THE JURISDICTION OF GREATER GIYANI LOCAL MUNICIPALITY, MOPANI DISTRICT OF LIMPOPO PROVINCE.

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15 August 2022

PAULUS APRIL CONSULTING

DOCUMENT CONTROL

Report Type:	**PHASE 1 HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED PROSPECTING ACTIVITIES ALONG THE R81 ROUTE FROM GIYANI TO MAPHALLE ON THE REMAINING EXTENT OF FARM GREATER GIYANI 891 LT WITHIN THE JURISDICTION OF GREATER GIYANI LOCAL MUNICIPALITY, MOPANI DISTRICT OF LIMPOPO PROVINCE**
Project Name:	**APPLICATION FOR ENVIRONMENTAL AUTHORISATION FOR THE PROPOSED PROSPECTING ACTIVITIES ALONG THE R81 ROUTE FROM GIYANI TO MAPHALLE ON THE REMAINING EXTENT OF FARM GREATER GIYANI 891 LT WITHIN THE JURISDICTION OF GREATER GIYANI LOCAL MUNICIPALITY, MOPANI DISTRICT OF LIMPOPO PROVINCE**

Name	**Responsibility**	**Signature**	**Date**
Ms Dolphin Mabale [ASAPA Member] PhD (Heritage Studies) - University of the Witwatersrand **(Current studies)** MA (Anthropology) - University of Venda Postgraduate Diploma in Arts (Heritage Studies) – University of the Witwatersrand Honours Bachelor of Arts (Archaeology) - University of Venda BA (Anthropology and Archaeology) - University of Venda	Report writer		14 August 2022

Declaration of interest

I, Dolphin Mabale, declare that – • I act as an independent specialist;

- I am conducting any work and activity relating to the proposed prospecting activities situated along the R81 route from Giyani to Maphalle on the remaining extent of farms Greater Giyani 891 LT within the jurisdiction of Greater Giyani Local Municipality, Mopani District of Limpopo Province in an objective manner, even if this results in views and findings that are not favourable to the client;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have the required expertise in conducting the specialist report and I will comply with legislation, including the relevant Heritage Legislation (National Heritage Resources Act no. 25 of 1999 as amended), the Minimum Standards: Archaeological and Palaeontological Components of Impact Assessment (SAHRA and the CRM section of ASAPA), regulations and any guidelines that have relevance to the proposed activity;
- I have not, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this declaration are true and correct.

……..

Signature of Specialist

14 August 2022

Management summary

Ndalama Heritage Consulting in association with Paulus April Consulting were contracted to conduct a survey and specialist (archaeology and heritage) input for the area of the proposed prospecting activities situated along the R81 route from Giyani to Maphalle on the remaining extent of farms Greater Giyani 891 LT within the jurisdiction of Greater Giyani Local Municipality, Mopani District of Limpopo Province.

The investigation was conducted on the 9th of August 2022. The scope of the survey was to investigate for the presence of heritage or archaeological materials on the proposed prospecting sites of the development site.

The Limpopo Province presents multi-layered epochs of human occupation dating back to millennia. The Makapansgat Cave presents a window into human evolution dating back to the Stone Age. The Iron Age of the province is well studied and recorded by scholars in the field of Archaeology, most notably Prof. TN Huffman in the Shashe Limpopo Basin. The proposed development site is within the vicinity of the Magoro Hill archaeo-historical site. Bearing in mind the multi-layered nature of archaeological occurrences in the region, it was deemed obligatory to familiarise with such relevant scholarly background in order to contextualise the affected development site within the entire framework.

Mineral prospecting will present no impact on any cultural and/or heritage resources of the sites specifically intended for prospecting.

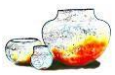
The findings are summarized as follows;

- The survey identified 09 graves within the greater footprint of the site intended for prospecting. Six of the graves were identified by the local traditional leadership of the area, who undertook a survey with the client, while the other three were identified through archaeological survey. The archaeological survey was conducted with the client who was made aware of the intricacies of as well as the various sections of the National Heritage Resources Act, Act 25 of 1999 as amended. No structures older than 60 years, or any palaeontological remains were identified.

- No other heritage resources as described under Section 3 of the National Heritage Resource Act (25 of 1999 as amended) were identified.
- Mineral prospecting can go ahead without any further mitigation.

It should be kept in mind that archaeological deposits usually occur below ground level. Should archaeological artefacts or skeletal materials be revealed on the sites during construction activities, such activities should be halted, and a cultural/archaeological heritage specialist notified in order for an investigation and evaluation of the finds to take place.

From an archaeological and cultural heritage resources perspective, we recommend LIHRA to approve the project as planned without any further heritage mitigation.



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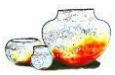


Glossary

Artefact: Items crafted by humans found at archaeological sites (Catling, 2017).

Epoch: A period of human activity

Iron Age: The human epoch characterised by the use of iron implements and ceramic vessels spanning from the beginning of the first millennium AD to c. AD 1850 (Shaw & Jameson, 1999).

Early Iron Age: The period of the Iron Age from the beginning of the first millennium AD to c. AD 1000 (Phillipson, 2004)

Late Iron Age: The period of the Iron Age from the second millennium AD to c. AD 1850 (Phillipson, 2004)

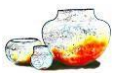
Hominid: Traditionally describes human-like primates ancestral, or closely related to, modern humans, but in the light of recent genetic studies now extended to embrace bonobos, chimpanzees, and gorillas (Barham & Mitchell, 2008).

Stone Age: The epoch dating to more than 2 million years ago to about AD 200 and for some areas it proceeded up to recent times. The epoch was characterised by the use of stones as the main tool to make a living.

Early Stone Age: The epoch spanning the period between approximately 2 million and 250 000 years ago and refers to the earliest Homo sapiens predecessors began making stone artifacts (Esterhuysen, 2008)

Middle Stone Age: This epoch dates to about 250 000 ago ending at around 25 000 years ago (Wadley, 2007).

Late Stone Age: The period is associated with the use of micro-lithic stone tools spanning from approximately 25 000 years ago to about AD 200 and up to historic times in certain areas



Figures

Tables

1. INTRODUCTION

This report on a heritage impact assessment of the proposed prospecting activities situated along the R81 route from Giyani to Maphalle on the remaining extent of farms Greater Giyani 891 LT within the jurisdiction of Greater Giyani Local Municipality, Mopani District of Limpopo Province was prepared in conjunction with preliminary desktop surveys, and field observations, and was compiled on the 14th August 2022. The site visit was conducted on the 9th of August 2022. The report was commissioned by Paulus April Consulting on behalf of GPRES Minerals (Pty) Ltd.

2. PROJECT LOCATION

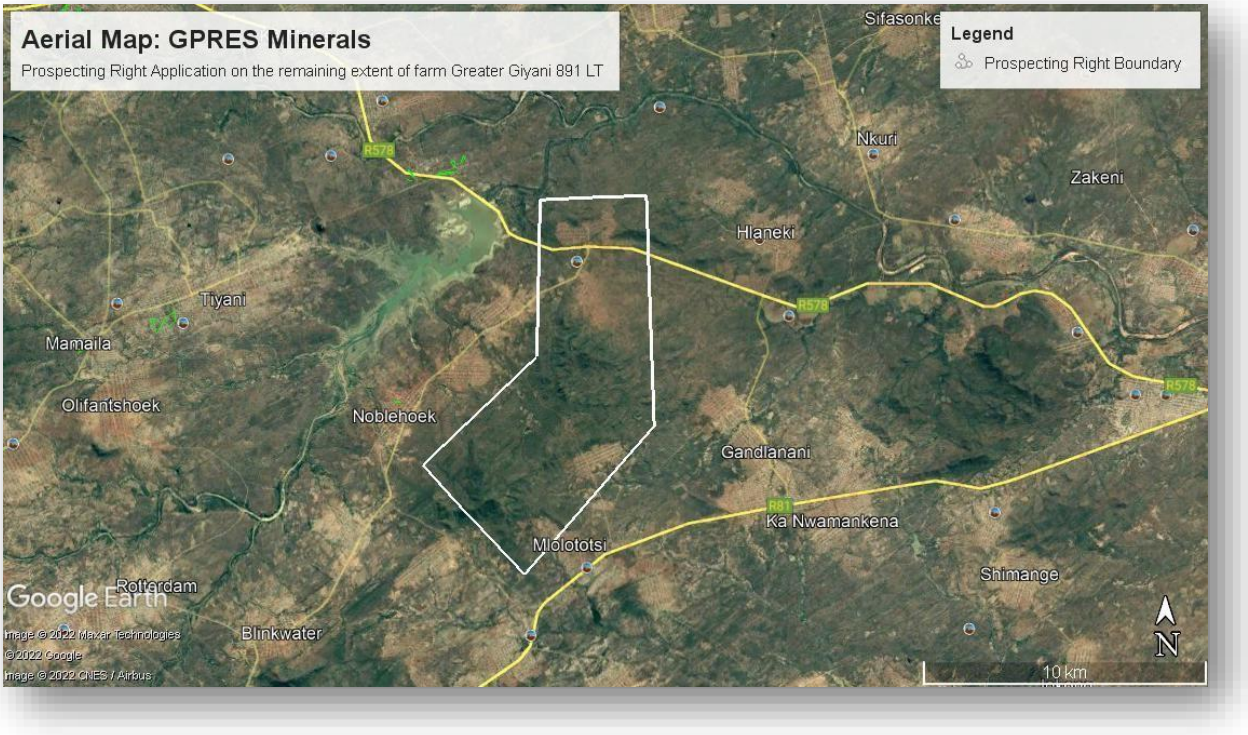


Figure 1: Locality Map

The proposed development is located along the D3820 Road, Rotterdam Village Stand No 564 situated on Portion 0 of the Farm Amsterdam 153 LT, under jurisdiction of Greater Letaba Local Municipality of Mopani District Municipality, Limpopo Province. The site is accessible from Babangu Village to the east, along the R578 that connects Giyani and Elim. The central co-ordinates of the site are 23.40º45'44"S 30.31º47'33"E.

3. NATURE OF PROPOSED ACTIVITIES

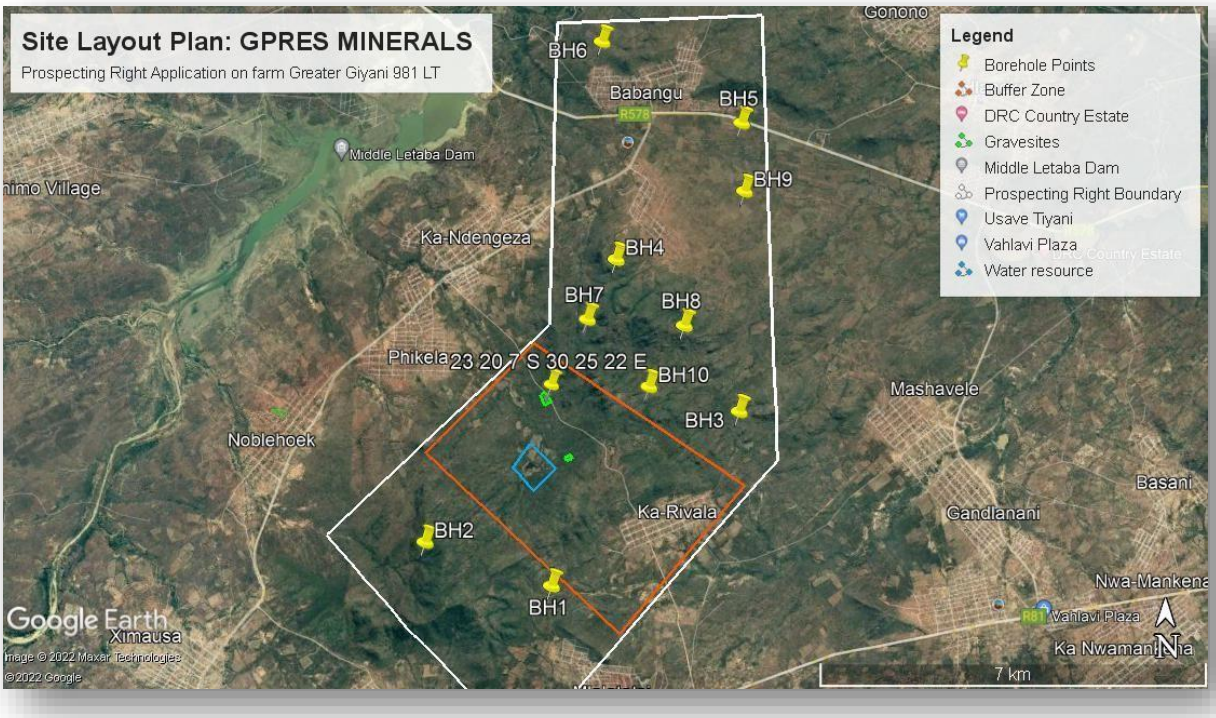


Figure 2: Prospecting points within the wider demarcated development site

GPRES Minerals (Pty) Ltd to prospect for minerals and aggregate along the R81 route from Giyani to Maphalle on the remaining extent of farms Greater Giyani 891 LT. The proposed development will entail the following;

- Drilling of boreholes on specified locations
- sampling of ore (Gold ore, Magnesite, Nickel ore, Quartzite/ Sandstone, Silica sand (general), Silver ore)

4. TERMS OF REFERENCE

The terms of reference which then translate into a rationale and aims for the undertaking of this phase 1 culture and heritage impact assessment are:

- To identify all objects, sites, occurrences, and structures of an archaeological or historical nature (cultural heritage sites) located on the proposed development site.
- To assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, and aesthetic value
- To review applicable legislative requirements.
- To indicate possible future impacts on the cultural resources and suitable mitigation measures should these become real.

5. LEGISLATIVE FRAMEWORK: NATIONAL HERITAGE RESOURCE ACT (25 OF 1999 as amended)

5.1 National Estate

Section 3 of the National Heritage Resource Act (25 of 1999 as amended) lists a wide range of national resources that qualify as part of South Africa national estate. When conducting a Heritage Impact Assessment (HIA), the following heritage resources have to be identified:

(a) Places, buildings structures and equipment of cultural significance

(b) Places to which oral traditions are attached or which are associated with living heritage

(c) Historical settlements and townscapes

(d) Landscapes and natural features of cultural significance

(e) Geological sites of scientific or cultural importance

(f) Archaeological and paleontological sites

(g) (g) Graves and burial grounds including-

(i) ancestral graves

(ii) royal graves and graves of traditional leaders

(iii) graves of victims of conflict

(iv) graves of individuals designated by the Minister by notice in the Gazette

(v) historical graves and cemeteries; and

(vi) other human remains which are not covered by in terms of the Human Tissue Act, 1983, Act No. 65 of 1983

(h) Sites of significance relating to the history of slavery in South Africa

(i) moveable objects

(ii) objects recovered from the soil or waters of South Africa, including archaeological and paleontological objects and material, meteorites and rare geological specimens

(iii) objects to which oral traditions are attached or which are associated with living heritage

(iv) ethnographic art and objects

(v) military objects

(vi) objects of decorative or fine art

(vii) objects of scientific or technological interest; and graphic, film or video material 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.

5.2 Section 38

There are a number of legislative frameworks that are relevant to the proposed activities, but this report is prompted by the National Heritage Resources Act, Act 25 of 1999. In terms of Section 38 of this Act, subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as;

(a) the construction of a road, wall, powerline, 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 50 m in length;

(c) Any development or other activity which will change the character of a site;

(i) Exceeding 5 000 m2 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 m2 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.

6. SITE SIGNIFICANCE

The following guidelines for determining site *significance* were developed by SAHRA in 2003. It must be kept in mind that the various aspects are not mutually exclusive, and that the evaluation of any site is done with reference to any number of these.

(a) Historic value

- Is it important in the community, or pattern of history?
- Does it have strong or special association with the life or work of a person, group or organization of importance in history?
- Does it have significance relating to the history of slavery?

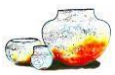
(b) Aesthetic value

- Is it important in exhibiting particular aesthetic characteristics valued by a community or cultural group?

(c) Scientific value

- Does it have potential to yield information that will contribute to an understanding of natural or cultural heritage?
- Is it important in demonstrating a high degree of creative or technical achievement at a particular period?

(d) Social value



- Does it have strong or special association with a particular community or cultural group for social, cultural or spiritual reasons?

(e) Rarity

- Does it possess uncommon, rare or endangered aspects of natural or cultural heritage?

(f) Representivity

- Is it important in demonstrating the principal characteristics of a particular class of natural or cultural places or objects?
- What is the importance in demonstrating the principal characteristics of a range of landscapes or environments, the attributes of which identify it as being characteristic of its class?
- Is it important in demonstrating the principal characteristics of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the nation, province, region or locality?

6.1 Degrees of Significance

This category requires a broad, but detailed knowledge of the various disciplines that might be involved. Large sites, for example, may not be very important, but a small site, on the other hand, may have great significance as it is unique for the region.

6.2 Significance rating of sites

(i) Low (ii) Medium (iii) High

This category relates to the actual artefact or site in terms of its actual value as it is found today, and refers more specifically to the condition that the item is in. For example, an archaeological site may be the only one of its kind in the region, thus its regional significance is high, but there is heavy erosion of the greater part of the site, therefore its significance rating would be medium to low. Generally speaking, the

following are guidelines for the nature of the mitigation that must take place as Phase 2 of the project.

High

- This is a do not touch situation, alternative must be sought for the project, examples would be natural and cultural landscapes like the Mapungubwe Cultural Landscape World Heritage Site, or the house in which John Langalibalele lived in.
- Certain sites, or features may be exceptionally important, but do not warrant leaving entirely alone. In such cases, detailed mapping of the site and all its features is imperative, as is the collection of diagnostic artefactual material on the surface of the site. Extensive excavations must be done to retrieve as much information as possible before destruction. Such excavations might cover more than half the site and would be mandatory; it would also be advisable to negotiate with the client to see what mutual agreement in writing could be reached, whereby part of the site is left for future research.

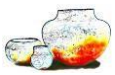
Medium

- Sites of medium significance require detailed mapping of all the features and the collection of diagnostic artefactual material from the surface of the site. A series of test trenches and test pits should be excavated to retrieve basic information before destruction.

Low

- These sites require minimum or no mitigation. Minimum mitigation recommended could be a collection of all surface materials and/ or detailed site mapping and documentation. No excavations would be considered to be necessary.

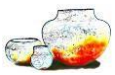
In all the above scenarios permits will be required from the National Heritage Resources Agency (SAHRA) as per the relevant law, namely the National Heritage



Resources Act (Act 25 of 1999) destruction of any heritage site may only take place when a permit has been issued by SAHRA or its provincial equivalent should this exist.

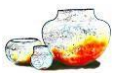
Level	Significance	Possible action
National (Grade I)	Site of National Value	Nominated to be declared by SAHRA
Provincial (Grade II)	Site of Provincial Value	Nominated to be declared by PHRA
Local Grade (IIIA)	Site of High Value Locally	Retained as heritage
Local Gra e (IIIB)	Site of High Value Locally	Mitigated and part retained as heritage
General Protected Area A	Site of High to Medium	Mitigation necessary before destruction
General Protected Area B	Medium Value	Recording before destruction
General Protected Area C	Low Value	No action required before destruction

Table 1: Grading and rating systems of identified heritage resources in terms of the National Heritage Resources Act (Act 25 of 1999).



7. METHODOLOGY

- A desktop study of the history and archaeology of the region of the proposed development was conducted. This enabled a broader specialist perspective of the background history and archaeology of the area. The desktop study was conducted two-fold. Firstly, the academic literature pertaining to the region was perused and studied from various academic sources and databases, both hard copy and electronic. Secondly, a study of previous heritage and cultural impact assessments of the region was undertaken through SAHRIS.
- A physical survey of the proposed development site was conducted on the 9th of August 2022. The photographs of the observations from the proposed site were taken with a Canon PowerShot SX430 IS camera.
- The geographic reference co-ordinates of the site were recorded with the employment of a Garmin 61LMT-S GPS. During a visit to the site on the 12th September 2020, the area of proposed development site was examined. The survey entailed a detailed foot survey of the proposed site through acceptable standards.
- There were no limitations to the survey of the proposed development site.



8. LITERATURE STUDY

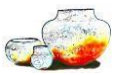
The literature presented here will map in sequence the different epochs of human evolution in southern Africa dating from more than 2 million years ago to the historical period in order to contextualise the proposed development site.

8.1 Early Humans and the Stone Age

The evolution of man is always discussed alongside the ability to fashion out and use tools in the different epochs. Berham & Mitchel (2008) have noted that inasmuch as humans depend on tools to make a living, dependence on tools is a trait observed with primates in general. Hominids and early humans fashioned out tools from stone, and the usage of stone throughout the epochs is delineated into the Early, Middle, and Late Stone Ages as illustrated in Table 2.

8.1.1 Early Stone Age

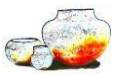
This period spans a period of between approximately 2 million and 250 000 years ago and refers to the earliest Homo *sapiens* predecessors began making stone artifacts. Archaeological material fingerprints (Stone tool artefacts) of these earliest periods have been found at Olduvai Gorge. This Gorge is located in Tanzania; the stone artifact industry was referred to as the Olduwan Industry. Most of the stone artifacts recovered were not neatly made and they were very crude in makings. The tools of this epoch were simple tools which, were among other things used to chop and butcher meat, de- skin animal and probably to smash bones to obtain marrow. The presence of cut marks from animal fossil bones dating to this period has led to the conclusion by researchers that human ancestors were scavengers and not hunters (Esterhuysen, 2008). They may have preyed on a drowned or crippled animals or shared a kill by another predator, which explains why at some of the sites of this epoch occur high bone proportions of large, dangerous game (Wadley, 2007)



The industries were later replaced by the Acheulian stone tool Industry which is attested to in diverse environments and over wide geographical areas. The Industry is characterized by large cutting tools mostly dominated by hand axes and cleavers. Bifaces emerged in East Africa more that 1.5 million years ago but have been reported from a wide range of areas, from South Africa to northern Europe and from India to the Liberian Coast. Evidence presented from Sterkfontein, Swartkrans and Makapansgat caves shows that the first tool making hominids belong to either an early species of the Homo or an immediate ancestor which is yet to be discovered here in South Africa (Esterhuysen, 2008). The Makapansgat Cave has presented the remains of some of the earliest hominids yet identified, the species *Australopithicus africanus* were found (Taylor, Hinde & Holt-Biddle, 2003). Both the Oldwan and Acheulian industries are well represented in the archaeology of the Cradle of Humankind from sites at Strekfontein and Kromdraai. These discoveries have made considerable contribution to the body of scientific knowledge in the subject of tool manufacturing in association with human evolutions. At Kromdraai site two definite Oldwan stone tools estimated to date to around 1.9 million years ago were discovered.

8.1.2 The Middle Stone Age

This period dates to about 250 000 ago ending at around 25 000 years ago. The Middle Stone Age is characterized by the production of flakes and flake-blades, some of them retouched to form scrapers, knives, points or backed pieces. Prepared core technology is not as strongly developed a feature as it is of roughly contemporary Middle Palaeolithic technologies, but many flakes and flake-blades do have faceted platforms (Shaw & Jameson, 1999). In general, Middle Stone Age tools are smaller than those of the Early Stone Age period. They are characterized by smaller hand axes, cleavers, and flake and blade industries. The period is marked by the emergence of modern humans through the change in technology, behaviour, physical appearance, art, and symbolism. Humans in the MSA were efficient hunters and gatherers. They hunted with spears tipped with stone. Evidence for this is present in the assemblages of some South African sites like Klasies River Mouth (near Storms River) (Mitchell, 2002).



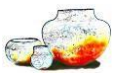
People living in this epoch lived occupied open camps, sometimes near pans, lakes or rivers, though they were not as dependent on close sources of water as their ancestral Early Stone Age counterparts. This independence from water suggests that they had water containers that could have been made of skin or ostrich egg. This epoch was characterised by efficient hunters and gatherers who hunted with spears tipped with stone, evidenced at some South African sites like Klassies River Mouth (near Storms River) had stone spear-tips embedded in animal bones (Deacon & Deacon, 1999; Mitchell, 2002). In addition, researchers have found microscopic traces of blood and animal remains on stone points (Williamson 2000). Stone points were hafted onto handles because residue analysis has traced resins on their bases, in addition to micro-chipping where twine would have been used to attach the stones to shafts (Wadley *et al*., 2004).

A variety of Middle Stone Age tools includes blades, flakes, scraper and pointed tools that may have been hafted onto shafts or handles and used as pear heads. Residue analyses on some of the stone tools indicate that these tools were certainly used as spear heads (Wadley, 2007). The presence of spear heads on some of the Middle Stone Age assemblages is an indication that these group of people were hunters who targeted middle sized game such as hartebeest, wildebeest and zebra (Wadley, 2007), Some assemblages are show the presence of bone tools such as bone points.

8.1.3 The Late Stone Age

The last phase of stone tool development is associated with Late Stone tools. The period is associated with the use of micro-lithic stone tools. Late Stone Age tool were discovered in the Cradle of humankind.

Four or five broadly successive artefact traditions are generally recognized within the southern African Later Stone Age. Although the very earliest Late Stone Age assemblages are amorphous, quartz dominated microlithic occurrences, with the systematic production of unretouched bladelets from highly distinctive bladelet cores distinguishes Robberg assemblages, which are found across South Africa, Lesotho and Swaziland. These bladelets were used in a diverse range of tasks as the cutting edges of composite artefacts; those formally retouched tools (scrapers, adzes, backed microliths) that do occur are always rare (Shaw & Jameson, 1999).



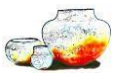
EPOCH	APPROXIMATE DATE
STONE AGE	
Early Stone Age	more than c. 2 million years ago - c. 250 000 years ago
Middle Stone Age (Includes San Rock Art)	c. 250 000 years ago – c. 25 000 years ago
Later Stone Age	c. 25 000 years ago - c. AD 200 (up to historic times in certain areas)
IRON AGE	
Early Iron Age	c. AD 400 - c. AD 1025
Late Iron Age (Stonewalled sites)	c. AD 1025 - c. AD 1830 (c. AD 1640 - c. AD 1830)

Table 2: Epochs of human evolution in southern Africa dating from more than 2 million years ago to the historical period.

8.2 Southern African Migrations and the Iron Age

8.2.1 Early Iron Age

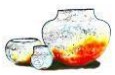
The discussion of hominids as in the latter discussions on the Stone Age, as well as the discussions on human migrations in the field of Archaeology of Southern Africa is tool focused. The Iron Age of Southern Africa is characterized by migrations in the sub-continent. The main telling of these migrations is the presence of potsherds at archaeological sites, both on the surface and in the deposits. The evolution is now advanced at this level to include iron tools and pottery. Scholars commonly place these African Iron Age remains in two main phases: Early (AD 1–1000) and Late (AD 1000–



1850) (Shaw & Jameson, 1999). Archaeologists use ceramic styles of the pottery in Central and Southern Africa to trace the origins and movements of Iron Age people.

According to Shaw & Jameson (1999), environmental data indicate that significant climatic shifts took place during the Iron Age, and wetter periods facilitated Iron Age expansion. In any case, the people's migratory routes are traced in Southern Africa following ceramic styles. David Phillipson's Chifumbadze classification, somewhat modified by Thomas Huffman, identifies three principal divisions and therefore 'streams' of movement: (1) the Urewe Tradition, which contains firstly a Kwale Branch, including Silver Leaves/Matola in southern Africa and secondly an Nkope Branch, including Ziwa and Gokomere in Zimbabwe, and Kamnama and Kumadzulo (or the Dambwe group) in Zambia; (2) the Kalundu Tradition, which includes Benfica in Angola, Kapwirimbwe and Kulundu in Zambia, Sinoia in Zimbabwe and Matakoma, Broederstroom, Lydenburg and Msuluzi in South Africa. A direct cultural continuum in southern Africa from the Kalundu Tradition to modern Shona and from Kwale to Swahili in East Africa show that the Chifumbadze complex of styles was made by Eastern Bantu speakers. Other ceramic traditions are associated with Western Bantu speakers in the Congo basin. It is likely that Western Bantu speakers moved from the Nigeria/Cameroon homeland into the Congo Basin as root crop agriculturalists, perhaps by 1000 BC, before Eastern Bantu evolved (Phillipson, 2005).

A current debate concerns the movement of Eastern Bantu speakers into East, Central and Southern Africa and the nature of their society. Excavations at Broederstroom show that more cattle were herded than faunal samples indicate and that by this time (at least) settlement organization followed the 'Central Cattle Pattern' (i.e. a settlement pattern centred on a 'male domain' comprising a central cattle byre, elite burials and a 'men's court'). These people therefore valued hereditary leadership, a patrilineal ideology, cattle bride price and a religion based on their ancestors. The early presence of the central cattle pattern disproves a once commonly held theory that the Late Iron Age was heralded by the development of cattle rearing around AD 1000. The most significant event at this time was the evolution of the Zimbabwe culture at K2 and Mapungubwe. The Indian Ocean trade with Swahili that was so important in this evolution began somewhat earlier, and glass beads are found throughout Zimbabwe in 9th-century contexts. Unrelated stimuli at the same time caused Western Bantu



speakers with Luangwa style pottery to move south across Zambia, ultimately forming the so-called 'matrilineal belt'. As a possible consequence, speakers of the Eastern Bantu, Sotho-Tswana and Nguni languages moved into southern Africa during the 13th century. Sotho-Tswana did not occupy the open highveld of the Transvaal and Orange Free State until the climate became warmer and wetter in the 16th century (Shaw & Jameson, 1999; Reid & Lane, 2004).

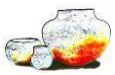
8.2.2 Late Iron Age

The area earmarked for development falls under the late Iron Age, and according to the discussion above, it falls in the Kalundu branch of the migration theories. At about AD 1350 the first Sotho-Tswana people moved from East Africa to southern Africa and settled in the Shashe-Limpopo confluence. Icon pottery which derived its name from the farm where it was first discovered marks the distribution of the earliest SothoTswana in the region. The archaeological name of this early Sotho-Tswana ceramic is Moloko (Hrbek 2003; Huffman 2005). Phillipson (2005) places Tzaneen to the northeast of the development site as belonging to the Chifumbadze Complex of the Kalundu Tradition. According to Whitelaw (2004), it is Esterhuysen's (2008) research that yielded Letaba and Moloko pottery at the Kekana Ndebele refuge site in the Makapan valley, dating to 1854.

8.2.3 The Archaeological Background of the Area of the Proposed Development Site

Recent archaeological research by Mathoho (2012) was undertaken at various sites south of the Luvuvhu River, most notably at the Thomo Village to the north-east of the development site. The research continues for the purposes of the same author's doctoral studies. Before this, it was only at sites like Eiland and Silver Leaves near Tzaneen (Inskeep, 1978) that archaeological research was carried out in the intervening area mentioned. Both these sites are in the north-eastern region of the Limpopo Province.

Academic research in the area of the proposed development was conducted by the Department of Anthropology and Archaeology of the University of South Africa at Magoro Hill (Fig. 2 below) which is a few kilometres to the north of the proposed



development site (Prinsloo, et al., 2012). Magoro Hill is a Late Iron Age to historical Venda archaeological site that dates from the 18th Century to the historical period of the 1950's. The UNISA 2010 excavations at Magoro Hill yielded military British buttons that were analysed by Reeks who concluded a possible British army presence on the hill, or rather a possible involvement or interaction of some local men from the hill with British soldiers (2011).

The same archaeological research from the hill yielded glass beads which were analysed by Prinsloo (et al., 2012). The analysis recalibrated the settlement chronology according to oral tradition. Boeyen's (2012) research into the recent history and archaeology of the South African interior including Magoro Hill, proposes a thorough multi-disciplinary approach into the study of the recent past, whilst warning of the strengths and weaknesses of methodologies. Koleini (et al., 2016) analysed the beads from Magoro Hill to unravel a possible international bead trade. It would have been rewarding to have been able to cite academic sources that detail the pottery of the Magoro Hill as pottery remains are the main telling of an Iron Age site, and therefore would have been able to cross analyse the pottery remains from the proposed development site with that from Magoro Hill.

9. SURVEY OBSERVATIONS

Figure 3: General view of the site from Ndengeza Village

The proposed development site is within a few kilometres from the archaeo-historical Magoro Hill that was well researched by the Archaeology Department of the University of South Africa as indicated above. Of interest are clearly marked and fenced off graves at the western point of the development site. The formal graves are in not in close proximity of any prospecting borehole points. The areas the graves occupy are informally fenced off and cleared. The first and second set of graves geo-reference co-ordinates are 23˚20'07.1"S 30˚25'22.4"E and 23˚20'08.5"S 30˚25'21.4"E. The first and second sets of graves are within a single fenced off area. The third set of graves geo-reference co-ordinates are 23˚20'43"S 30˚25'28"E. Kindly note the areas indicated in green in Figure 4 below. These graves were all identified by community leaders.

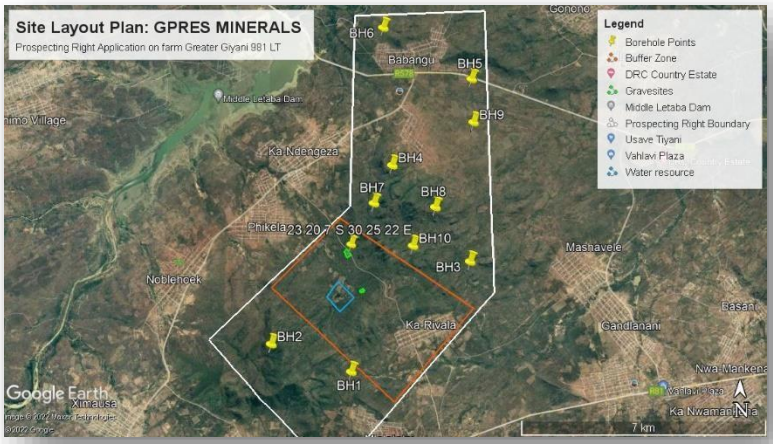


Figure 4: Site layout plan indicating the proximity of graves to the prospecting boreholes in green

Figure 5: Sampled graves from the third set of marked graves in a family graveyard

Figure 6: The third set of graves with community leaders in the background

Figure 7: First set of graves in the west of the development site

Figure 8: Second set of graves in the west of the proposed development site

Figure 9: View of the site towards the north

Figure 10: View of the site towards the south

Figure 11: General view of the proposed development site towards the south-east

Figure 12: Domestic waste dumping

Figure 13: An old fence

The set of graves below (Fig. 14) was identified about 500m from the other sets of graves in Figures 5, 6, 7 & 8. These graves are neither marked nor fenced off and require protection and fencing off. However, they will not be affected by prospecting activities. The graves geo-reference co-ordinates are 23˚20'24.7"S 30˚25'26.4"E.

Figure 14: fourth set of graves to the west of the development site within 500m of the other sets of graves

Figure 15: Wood harvesting

10. RECOMMENDATIONS

The developer had undertaken a site visit with one of the local traditional leaders of the affected area, Hosi Phikela. Hosi Phikela identified old family graves in Figure 5, 6, 7, & 8. The graves are fenced off with an informal fence and are clearly marked. They must not be disturbed. Further unmarked graves were identified during archaeological survey, and these were geo-referenced as indicated. All identified graves must be fenced off with a formal fence and further, the development team has created a buffer zone to protect the graves. This buffer zone is clearly indicated in red in Figure 5.

This phase 1 archaeological and heritage survey was undertaken solely for the purpose of prospecting, and thus, any other activities that should be undertaken by the developer will require a comprehensive phase 2 survey of that specific portion of the development site for further specialised recommendation before any development can proceed.

- No structures older than 60 years or any palaeontological remains were identified within the demarcated area.

- Development can go ahead without any further mitigation.

It should be kept in mind that archaeological deposits usually occur well below ground level. Should archaeological artefacts or skeletal materials be revealed on the sites during construction activities, such activities should be halted, and a cultural/archaeological heritage specialist notified in order for an investigation and evaluation of the finds to take place.

From an archaeological and cultural heritage resources perspective, we recommend LIHRA to approve the project as planned without any further heritage mitigation.

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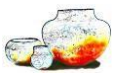

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