

MILLENNIUM HERITAGE GROUP (Pty) Ltd

PHASE 1

HERITAGE IMPACT ASSESSMENT RELATING TO SAMIN APPLICATION FOR PROSPECTING RIGHTS WITHIN HA-GUMBU, TSHENZHELANI, SEGONDE, MALALE AND MADIMBO AREA, MUSINA LOCAL MUNICIPALITY OF THE VHEMBE DISTRICT, LIMPOPO PROVINCE OF SOUTH AFRICA



Compiled by: Millennium Heritage Group (PTY) LTD

For: Naledzi Environmental Consultants

147 Thabo Mbeki Street

Post net Suit # 320

Private Bag X9307

Polokwane

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EXECUTIVE SUMMARY

This report provides the results of a heritage impact assessment study for the proposed prospecting of minerals by SAMIN at Ha-Gumbu, Tshenzhelani, Madimbo near Masisi, within the Musina Local Municipality of the Vhembe District, Limpopo Province. The study area is located roughly 96.9 kilometers northeast of Thohoyandou Central Business District (CBD) near the border with Zimbabwe. Land ownership in the area falls under two different authorities. One section falls under the South African National Defense force, Madimbo Military base corridor. The remaining portion is mostly communally owned, interspersed with small private farmlands. Generally, this area is known for a very long record of human occupation stretching from the Earlier Stone Age to the recent periods (Huffman 2007)

Naledzi Environmental Consultants requested Millennium Heritage Group (Pty) Ltd, an independent heritage consulting company to assess the heritage sensitivity of area proposed for mineral prospecting. A multi-stepped methodology was used to address the terms of reference. To begin with, a desktop study was carried out to identify any known heritage sites and their significance. This involved consulting contract archaeology reports filed on SAHRIS, research reports and academic publications. Finally, the study was guided by the National Heritage Resources Act of 1999 and SAHRA Minimum Standards for impact assessment. One of the major limitations is that the area falls within a very sensitive and active high-profile zone (military base and near the international border between South Africa and Zimbabwe). A systematic sampling approach was developed resulting in the selection of areas close to proposed sites for mineral prospecting activities. The sensitivity of the area dictated that assessment was restricted to around proposed locations targeted for drill holes and trench excavations. Systematic foot surveys were performed around areas targeted for development. In addition, desktop studies indicated that archaeological sites are mostly located on ridges and river valleys. Based on this study, the following conclusions were reached:

1. The proposed development is scheduled to take place on an area previously disturbed by previous graphite mining activities.
2. The identified types of heritage resources within the proposed development footprints include:
 - i. Old graphite mine shafts and excavated tranches and associated buildings foundations dating to the early 1942
 - ii. Graves,
 - iii. Stone walled sites

- iv. Historical homesteads identified by the presence of stonewalls, stone foundations and ash midden.
 - v. Intangible heritage represented by sacred river pools and trees where ritual dances were performed.
3. Oral traditions and local community consultation revealed the occurrence of stone walls and grave sites that belongs to Ne-Madimbo and Tshenzhelani families on top of rugged rocky out crops within Madimbo military corridors. This area could not be accessed due to its sensitive nature. Should prospecting be extended to this area, a full assessment is required.

Flowing from these conclusions, the following recommendations were reached:

It is strongly recommended that the planning of sites proposed for development activities including the design and siting of access routes must where possible avoid heritage sites. Where this is not possible, proper impact and mitigation studies must be performed as per requirements of the National; Heritage Resources Act of 1999.

- ❖ Because of their high value, graves must be avoided and protected in situ. However, in cases where this is not possible, they must be exhumed by qualified professionals.
- ❖ Should the proposed development affect hut floors, great caution is required because previously these were used as burial sites for infants and still born babies by Vha-Venda.
- ❖ Consulted historical records showed that the mineshafts and the associated mining remnants are approximately 76 years old and as such are protected by the provisions of the National Heritage Act 25 of 1999. It is recommended that these sites be documented and mapped in the event they are affected by the proposed development. However, permits for such work must be obtained from a competent heritage body.
- ❖ Based on the above a full heritage including a Paleontological impact assessment must be conducted should the client proceed to apply for a mining license.
- ❖ Should chance finds be recovered in the process of development, work must be stopped immediately. A report must be made to the nearest heritage authority.

- ❖ Notwithstanding the limitations of this study, it is recommended that the prospecting be authorized subject to the proviso management plan and monitoring in order to avoid heritage sites where they cannot be avoided, a proper plan must be put in place to mitigate the sites as per the provisions of the National Heritage Resources Act.

ACKNOWLEDGEMENTS:

CLIENT NAME: SAMIN

CONSULTANTS: Millennium Heritage Group (PTY) LTD

HERITAGE AND ARCHAEOLOGICAL SPECIALISTS: Mr. Mathoho Ndivhuho. Eric
(PhD Candidate University of Cape Town)

Heritage specialist/ ASAPA Accredited Archaeologist

Membership Number # 312

Email: mathohoe@gmail.com

REPORT AUTHORS: Prof, S. Chirikure and Mr. Mathoho Ndivhuho Eric

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Acronyms

AIA	Archaeological Impact Assesment
EIA	Environmental Impact Assesment
EIA	Early Iron Age
EMP	Environmental Management Plan
MHG	Millenium Heritage Group(PTY) LTD
NEMA	National Environmental Management Act, 1998 (Act No.107 of 1998)
NHRA	National Heritage Resources Act, 1999 (Act No.25 of 1999)
SAHRA	South African Heritage Resources Agency
ESA	Early Stone Age
MSA	Middle Stone Age
LSA	Late Stone Age
IA	Iron Age
LIA	Late Iron Age
UNESCO	United Nations Educational, Scientific and culturural Organization
WHC	World Heritage Conventions of 1972

DEFINITIONS

Archaeological Material remains resulting from human activities, which are in a state of disuse and are in, or on, land and which are older than 100 years, including artefacts, human and hominid remains, and artificial features and structures.

Chance Finds Archaeological artefacts, features, structures or historical cultural remains such as human burials that are found accidentally in context previously not identified during cultural heritage scoping, screening and assessment studies. Such finds are usually found during earth moving activities such as water pipeline trench excavations.

Cultural Heritage Resources Same as Heritage Resources as defined and used in the South African Heritage Resources Act (Act No. 25 of 1999). Refer to physical cultural properties such as archaeological and paleontological sites; historic and prehistoric places, buildings, structures and material remains; cultural sites such as places of ritual or religious importance and their associated materials; burial sites or *graves* and their associated materials; geological or natural features of cultural importance or scientific significance. Cultural Heritage Resources also include intangible resources such as religion practices, ritual ceremonies, oral histories, memories and indigenous knowledge.

Cultural Significance The complexities of what makes a place, materials or intangible resources of value to society or part of, customarily assessed in terms of aesthetic, historical, scientific/research and social values.

Grave A place of interment (variably referred to as burial), including the contents, headstone or other marker of such a place, and any other structure on or associated with such place. A grave may occur in isolation or in association with others where upon it is referred to as being situated in a cemetery.

Historic Material remains resulting from human activities, which are younger than 100 years, but no longer in use, including artefacts, human remains and artificial features and structures.

In Situ material, are Material culture and surrounding deposits in their original location and context, for example an archaeological site that has not been disturbed by farming.

Late Iron Age this period is associated with the development of complex societies and state systems in southern Africa.

Material culture Buildings, structure, features, tools and other artefacts that constitute the remains from past societies.

Site A distinct spatial cluster of artefacts, structures, organic and environmental remains, as residues of past human activity.

1. INTRODUCTION

SAMIN commissioned studies for the proposed prospecting of minerals at Ha-Gumbu, Tshenzhelani, Madimbo near Masisi, within the Musina Local Municipality of the Vhembe District, Limpopo Province. The proposed study area is positioned roughly 96.9 kilometers northeast of Thohoyandou Central Business District (CBD). To ensure that the proposed development meets the environmental requirements in line with the National Environmental Management Act 107 of 1998 as amended in 2010, they appointed Naledzi Environmental Consultants as an Independent Environmental Assessment Practitioner, who then appointed Millennium Heritage Group (PTY) LTD to undertake archaeological impact assessment of the proposed project.

The proposed activities are listed Activity No 20 as described in Government gazette Notice1, GNR 983 promulgated on 4 December 2014 of the Regulation compiled in terms of section 24(5) read with section 44 of the National Environmental Management Act (Act 107 of 1998) that SAMIN have applied for prospecting rights in terms of regulation 2(2) of the MPRDA, ACT 28 of 2002. The proposed activities form part of the development process, where application for Environmental Assessment Authorization must be completed. As part of the Environmental Management Plan process, a NEMA application form was submitted to the relevant Department of Minerals Resource. Archaeological Impact Assessment (AIA) report form part of a series of appendices prepared for a EMP pursued in accordance with the National Environmental Management Act,1998 (Act No. 107 of 1998) and the National Heritage Resources Act 25 of 1999.

To comply with relevant legislations, the applicant SAMIN requires information on the heritage resources that occur within or near the proposed site and their heritage significance. The objective of the study is to document the presence of archaeological and historical sites of significance to inform and provide guidance on the proposed mineral prospecting. Apart from contributing towards the preservation of the heritage resources, the studies provide information and awareness of the types of archaeological and heritage sites that occur within the proposed study area. The document enables the developer to align their functions and responsibilities to advance mineral prospecting activities and at the same time minimizing potential impact on archaeological and heritage sites. Heritage Impact Assessment is conducted in line with the National Heritage Resources Act of 1999 (Act No. 25 of 1999). The Act protects heritage resources through formal and general protection. The Act provides that certain developmental activities require consents from relevant heritage resources authorities. In addition to heritage legislations, the South African Heritage Resources Agency (SAHRA) has developed minimum standards used in

impact assessment, while these local standards, are operational they area strengthened by the International Council of Monuments and Sites (ICOMOS) published guideline for assessing impacts. The Burra Charter of 1999, requires a cautious approach to the management of sites; it sets out firmly that the cultural significance of heritage places must guide all decisions.

The National Heritage Resources Act (NHRA - Act No. 25 of 1999) protects all structures and features older than 60 years (Section, 34), archaeological sites and materials (Section 35) and graves and burial sites (Section, 36). To comply with the legislation, the applicant requires information on the heritage resources, that occur in the area proposed for development and their significance. This will enable the Applicant to take pro-active measures to limit the adverse effects that the development could have on such heritage resources.

2. RELEVANT LEGISLATION

Two sets of legislation are relevant for the purposes of this study in as far as they contain provisions for the protection of tangible and intangible heritage resources including burials and burial grounds.

2.1. The National Heritage Resource Act (25 of 1999)

This Act established the South African Heritage Resource Agency (SAHRA) as the prime custodian of the heritage resources and makes provision for the undertaking of heritage resources impact assessment for various categories of development as determined by section 38. It also provides for the grading of heritage resources (Section, 7) and the implementation of a three-tier level of responsibility and functions from heritage resources to be undertaken by the State, Provincial and Local authorities, depending on the grade of heritage resources (Section, 8)

In terms of the National Heritage Resource Act 25, (1999) the following is of relevance:

Historical remains

Section 34 (1) No person may alter or demolish any structure or part of a structure, which is older than 60 years without a permit issued by the relevant Provincial Heritage Resources Authority.

Archaeological remains

Section 35(3) Any person who discovers archaeological and paleontological materials and meteorites during development or agricultural activity must immediately report the find to the responsible heritage resource authority or the nearest local authority or museum.

Section 35(4) No person may, without a permit issued by the responsible heritage resources authority-

- destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or paleontological site or any meteorite;
- destroy, damage, excavate, remove from its original position, collect or own any archaeological or paleontological material or object or any meteorite;
- trade in, sell for private gain, export or attempt to export from republic any category of archaeological or paleontological material or object or any meteorite; or
- bring onto or use at an archaeological or paleontological site any excavation equipment or any equipment which assist with the detection or recovery of metal or archaeological material or object or such equipment for the recovery of meteorites.

Section 35(5) When the responsible heritage resource authority has reasonable cause to believe that any activity or development which will destroy, damage or alter any archaeological or paleontological site is underway, and where no application for a permit has been submitted and no heritage resource management procedures in terms of section 38 has been followed, it may

- serve on the owner or occupier of the site or on the person undertaking such development an order for the development to cease immediately for such period as is specified in the order
- carry out an investigation for obtaining information on whether an archaeological or paleontological site exists and whether mitigation is necessary;
- if mitigation is deemed by the heritage resources authority to be necessary, assist the person on whom the order has been served under paragraph (a) to apply for a permit as required in subsection (4); and
- recover the cost of such investigation from the owner or occupier of the land on which it is believed an archaeological or paleontological site is located or from the person proposing to undertake the development if no application for a permit is received within two weeks of the order being served.

Subsection 35(6) the responsible heritage resource authority may, after consultation with the owner of the land on which an archaeological or paleontological site or meteorite is

situated; serve a notice on the owner or any other controlling authority, to prevent activities within a specified distance from such site or meteorite.

Burial grounds and graves

Section 36 (3) No person may, without a permit issued by SAHRA or a provincial heritage resources authority:

- (i) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or
- (ii) bring onto or use at a burial ground or grave any excavation equipment, or any equipment which assists in detection or recovery of metals.

Subsection 36 (6) Subject to the provision of any person who during development or any other activity discover the location of a grave, the existence of which was previously unknown, must immediately cease such activity and report the discovery to the responsible heritage resource authority which must, in co-operation with the South African Police service and in accordance with regulation of the responsible heritage resource authority-

- (l) carry out an investigation for obtaining information on whether such grave is protected in terms of this act or is of significance to any community; and if such grave is protected or is of significance, assist any person who or community which is a direct descendant to decide for the exhumation and re-interment of the contents of such grave or, in the absence of such person or community, make any such arrangement as it deems fit.

Cultural Resource Management

Section 38(1) Subject to the provisions of subsection (7), (8) and (9), any person who intends to undertake a development*...

- must at the very earliest stages of initiating such development notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

development means any physical intervention, excavation, or action, other than those caused by natural forces, which may in the opinion of the heritage authority in any way

result in a change to the nature, appearance or physical nature of a place, or influence its stability and future well-being, including:

- (i) Construction, alteration, demolition, removal or change of use of a place or a structure at a place;
- (ii) Any change to the natural or existing condition or topography of land, and
- (iii) Any removal or destruction of trees, or removal of vegetation or topsoil;

place means a site, area or region, a building or other structure

structure means any building, works, device or other facility made by people and which is fixed to the ground.

2.2. The Human Tissue Act (65 of 1983)

This act protects graves younger than 60 years, these falls under the jurisdiction of the National Department of Health and the Provincial Health Department. Approval for the exhumation and reburial must be obtained from the relevant provincial MEC as well as relevant Local Authorities.

3. TERMS OF REFERENCE

The terms of reference for the study were to undertake a Heritage Impact Assessment for the proposed mineral prospecting and submit a specialist report, which addresses the following:

- Executive summary
- Scope of work undertaken
- Methodology used to obtain supporting information
- Overview of relevant legislation
- Results of all investigations
- Interpretation of information
- Assessment of impact
- Recommendation on effective management measures
- References

4. TERMINOLOGY

The Heritage Impact Assessment (HIA) referred to in the title of this report includes a survey of heritage resources as outlined in the National Heritage Resources Act, 1999 (Act No 25 of 1999) Heritage resources, (Cultural resources) include all human-made phenomena and intangible products that are result of the human mind. Natural, technological or industrial features may also be part of heritage resources, as places that

have made an outstanding contribution to the cultures, traditions and lifestyle of the people or groups of people of South Africa.

The term 'pre –historical' refers to the time before any historical documents were written or any written language developed in a area or region of the world. The historical period and historical remains refer, for the project area, to the first appearance or use of 'modern' Western writing brought South Africa by the first colonist who settled in the Cape in the early 1652 and brought to the other different part of South Africa in the early 1800.

The term 'relatively recent past' refers to the 20th century. Remains from this period are not necessarily older than sixty years and therefore may not qualify as archaeological or historical remains. Some of these remains, however, may be close to sixty years of age and may soon, qualify as heritage resources.

It is not always possible, based on the observation alone, to distinguish clearly between archaeological remains and historical remains or between historical remains and remains from the relatively recent past. Although certain criteria may help to make this distinction possible, these criteria are not always present, or when they are present, they are not always clear enough to interpret with great accuracy. Criteria such as square floors plans (a historical feature) may serve as a guideline. However circular and square floors may occur together on the same site.

The 'term sensitive remains' is sometimes used to distinguished graves and cemeteries as well as ideologically significant features such as holy mountains, initiation sites or other sacred places. Graves are not necessarily heritage resources if they date from the recent past and do not have head stones that are older than sixty years. The distinction between 'formal' and 'informal' graves in most instances also refers to graveyards that were used by colonists and by indigenous people. This distinction may be important as different cultural groups may uphold different traditions and values regarding their ancestors. These values should be recognized and honored whenever graveyards are exhumed and relocated.

The term 'Stone Age' refers to the prehistoric past, although Late Stone Age people lived in South Africa well into the historical period. The Stone Age is divided into an Early Stone Age (3Million years to 150 000 thousand years ago) the Middle Stone Age (150 000 years ago to 40 years ago) and the Late Stone Age (40 000 years to 200 years ago).

The term 'Early Iron Age' and Late Iron Age respectively refers to the periods between the first and second millenniums AD.

The 'Late Iron Age' refers to the period between the 17th and the 19th centuries and therefore includes the historical period.

Mining heritage sites refers to old, abandoned mining activities, underground or on the surface, which may date from the pre-historical, historical or relatively recent past.

The term 'study area' or 'project area' refers to the area where the developers wants to focus its development activities (refer to plan)

Phase I studies refer to survey using various sources of data in order to establish the presence of all possible types of heritage resources in a given area.

Phase II studies includes in-depth cultural heritage studies such as archaeological mapping, excavating and sometimes laboratory work. Phase II work may include documenting of rock art, engravings or historical sites and dwellings; the sampling of archaeological sites or shipwrecks; extended excavation of archaeological sites; the exhumation of bodies and the relocation of grave yards, etc. Phase II work may require the input of specialist and require the co-operation and the approval of SAHRA.

5. METHODOLOGY

Source of information

i. Desktop studies

A desktop study was performed to gain information on the heritage resources in the area. This region is well known for its Stone Age heritage. However, most studies were performed further west of the study area in the Mapungubwe National Park. Also, from the early first millennium AD, the area hosted Early Iron Age sites who built permanent villages along riverbanks. Around AD900, the Middle Iron Age began until it was superseded by the Later /iron Age after AD1300. The well-known K2 and Mapungubwe phase sites fall into the Middle Iron Age. In the Later Iron Age remains of settlements known as Khami are also known in the area. These are associated with ancestral Venda. There are also settlements dating to the twentieth century. The graphite mine was established in 1942 and flourished for a period of 36 years. Mining activities concluded due to the outbreaks of the Zimbabwean conflict of Liberation. These remains are now historical. The expectation from this desktop study is that it is highly possible to heritage belonging to these different phases.

ii. Field surveys

To identify sites on the ground and to assess their significance, a dedicated field visit was performed to the site of the proposed development. The fieldwork which lasted a week was performed by Mr. Mathoho Eric. The fieldwork followed systematic inspections of predetermined linear transects which resulted in the maximum coverage of the entire site. The sampling method selected was the stratified random technique. The proposed sites for prospecting were taken as strata with random field walking around them. Standard archaeological observation practices were followed; visual inspection was supplemented by relevant written source, and oral communications with local communities from the surrounding area. Identified sites were recorded by hand held GPS and plotted on 1:50 000 topographical maps. Archaeological/historical material and the general condition of the terrain were photographed with a Canon 1000D Camera.

Assumption and Limitations

It must be pointed out that heritage resources can be found in the unexpected places, it must also be borne in mind that survey may not detect all the heritage resources in each project area. While some remains may simply be missed during surveys (observation) others may occur below the surface of the earth and may be exposed once development (such as the construction of the proposed facilities) commences. Part of the area was not investigated due to the military training that was being undertaken during the initial site visit. The vicinity (Border with Zimbabwe) has become a dangerous zone, where illicit activities is rife and some of these zones are patrolled by South African army therefore it is not safe to conduct the assessment in good faith. Certain areas were not investigated due to the presence of elephant herds. Notwithstanding these limitations, great effort was invested in surveying areas that could be accessed.

6. ASSESSMENTS CRITERIA

This section describes the evaluation criteria used for determining the significance of archaeological and heritage sites. The significance of archaeological and heritage sites was determined based on the following criteria:

- The unique nature of a site.
- The amount/depth of the archaeological deposit and the range of features (stone walls, activity areas etc.).
- The wider historic, archaeological and geographic context of the site.
- The preservation condition and integrity of the site.

- The potential to answer present research questions.

6.1 Site Significance

The site significance classification standards as prescribed in the guidelines and endorsed by the South African Heritage Resources Agency (2006) and approved by the Association for Southern African Professional Archaeologists (ASAPA) for the Southern African Development Community (SADC) region, were used in determining the site significance for this report.

The classification index is represented in the Table below that show grading and rating systems of heritage resources in South Africa.

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)	Grade 4A	High / Medium Significance	Mitigation before destruction
Generally Protected B (GP.B)	Grade 4B	Medium Significance	Recording before destruction
Generally Protected C (GP.C)	Grade 4C	Low Significance	Destruction

6.2 Impact Rating

VERY HIGH

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

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

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

HIGH

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

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

Example: The change to soil conditions will impact the natural system, and the impact on affected parties (e.g. farmers) would be HIGH.

MODERATE

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

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

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

LOW

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

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

Example: The increased earning potential of people employed because of a development would only result in benefits of LOW significance to people living some distance away.

NO SIGNIFICANCE

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

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

6.3 Certainty

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

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

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

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

6.4 Duration

SHORT TERM : 0 – 5 years

MEDIUM: 6 – 20 years

LONG TERM: more than 20 years

DEMOLISHED: site will be demolished or is already demolished

6.5 Mitigation

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

- ✓ **A** – No further action necessary
- ✓ **B** – Mapping of the site and controlled sampling required
- ✓ **C** – Preserve site, or extensive data collection and mapping required; and
- ✓ **D** – Preserve site

7. Historical background a brief synthesis of the archaeology and heritage of the study area.

The Stone Age Period

Most of the research on the Stone Age in northern south Africa took place in the Mapungubwe National Park about 140km to the west of the proposed area. Nevertheless, a general account of the nature of the Stone Age can be provided.

Conventionally speaking, the Stone Age period has been divided into the Early Stone Age (ESA) (3.5 million and 250 000 BP), the Middle Stone Age (MSA) (250 000 – 25000 BP) and the Later Stone Age (25000 – 2000 BP) (Phillipson 2005). Early Stone Age stone tool assemblages are made up of the earlier Oldowan and later Acheulian types. The Oldowan tools were very crude and were used for chopping and butchering. These were replaced by Acheulian ESA tools dominated by hand axes and cleavers which are remarkably standardized (Wadley, 2007; Sharon, 2009). 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 (Phillipson 2005; Esterhuysen, 2007). Both the Oldwan and Acheulian industries are well represented in the archaeology of northern South Africa as shown by studies in the Mapungubwe National Park (Kuman et al. 2005; Sumner and Kuman 2014).

The Middle Stone Age dates to between 250 000 ago and 25 000 years ago. In general, Middle Stone Age tools are characterized by a size reduction in tools such as hand axes, cleavers, and flake and blade industries. The period is marked by the emergence of modern humans and was accompanied by change in technology, behavior, physical appearance, art, and symbolism (Phillipson 2005). A variety of MSA tools includes blades, flakes, scraper and pointed tools that may have been hafted onto shafts or handles and used as spear heads. Surface scatters of these flake and blade industries occur widespread across southern Africa (Klein 2000; Thompson & Marean, 2008). Residue analyses on some of the stone tools indicate that these tools were certainly used as spear heads (Wadley, 2007). From about 25 000 BP, stone tool assemblages generally attributed to the Later Stone Age emerged. This period is marked by a reduction in stone tool sizes. Typical stone tools include microliths and bladelets. Later Stone Age stone tools were recovered in the Mapungubwe National Park area (Forsman 2011). This period is also associated with the development of rock art whose distribution is known across southern Africa (Deacon and Deacon 1999; Phillipson 2005).

FARMING COMMUNITIES AND RECENT HISTORIES

Beginning in the early first millennium AD, farming communities who made a distinctive type of pottery, settled permanently in villages, and cultivated crops and raised animals appeared in southern Africa (Maggs, 1980; Loubser, 1988; Huffman 2007). Typical Early Iron Age sites are known along river banks and waterways. Sites dating to the Early Iron Age are known to occur to the west of the Nzhelele valley at Klein Africa and Happy Rest these sites were first identified by De Vaal (1941) and were later excavated by Helgaard Prinsloo (1974). Around AD900, the Middle Iron Age developed and is well known from sites in the Middle Limpopo such as K2 and Mapungubwe. Middle Iron Age sites are known in and around Musina and near the Soutpansberg Range of Mountains. Some known sites include the sites of Mutamba, found along the Mutamba river. The Middle Iron Age was succeeded by the Late Iron Age after 1300. Khami type sites are known the study area and beyond. These are defined by the presence of characteristic band and panel pottery and drystone built terraces where houses were built (Loubser 1989). The Khami period is associated with the formation and development of a Venda identity (Ibid1989). Khami type sites continued into the late 19th century and are associated with various Venda communities. Some of the most well-known Khami sites include Dzata located in the Nzhelele Valley. The late 19th century saw the introduction of European colonialism. Over the course of the 20th century, local communities were resettled to give way to European farms as well as for state activities. Often, these forced removals were not accompanied by exhumations of burials and other sensitive cultural remains. This is important because the military corridor was created after families were forcibly removed.

8. SITE LOCATION AND PROJECT DESCRIPTION

The proposed study area is situated approximately 96.9 kilometers northeast of Thohoyandou Central Business District (CBD). Located on the southern section of the Limpopo river bank. The area stretches for more than 30kilometers from Malale village to the west and Maluleke Ramsar Wetland site on the east. The site is characterized by undulating plains with rugged rocky outcrop hills with the flat plains along the Limpopo River and within the villages.

The site is located on the following global positioning system co-ordinates (GPS S22°.18.21.08 "& E 30°.52.47.06"). The vast area is still covered by natural vegetation that encompasses both Mopane and Limpopo ridge bushveld complex, with the ground covered by different grass species dominating flat and undulating sections of communal

land and well pronounced rocky outcrop ridges that forming the southern Limpopo river bank. The geology of the study area is dominated by rocks of the Beitbridge complex, as well as sediments that include sandstones of the Clarens formation. Variable soils from deep, free drained sandy soil to shallower types that include *Glenrosa* and *Mispah* soil occur at certain areas while section of the study area is dominated by shallow gravel and sand to calcareous clay soil. *Adonsonia digitata* is more common towards the lower lying area as well as on the rugged rocky ridges of the area (Mucina & Rutherford, 2006). Some of the identifiable plant taxa of the area include: *Colophospermum Mopane*, *Schlerocarya beria*, *Terminalia Pruniodes*, *Acacia tortilis*, *Combretum Imberbe*, *Combretum apiculatum*, *Kirkia Acuminata*, *Grewia flava*, *G. fleversence*. Some of the ground cover include *Digitaria eriantha*, *A. stipitata*, *Panicum Maximum*, *Stipagrostis*.

The proposed development entails:

- ✓ Underground drillings of core rock sample to determine base geological stratigraphy with minerals.



Figure 1: View of the Limpopo valley with the Limpopo River forming a border between South Africa

9. ASSESSMENT OF SITES AND FINDS

This section contains the results of the heritage sites/finds assessment. The phase 1 heritage scoping assessment program as required in terms of the Section 38 of the National Heritage Resource Act (Act 25 of 1999) done for the proposed mineral prospecting.

Find Assessments Results: *the following heritage sites were geo-referenced in the study area.*

- ✓ A single grave, indicated by rectangular parked stones as grave dressings. The grave is situated at (GPS S22°.18.21.08 "& E 30°.52.47.06"). The grave is located on the lower lying area south of the Limpopo River bank. An old borehole indicated by poles and concrete foundations were noted in close proximity to the grave. A piece of metal has been painted, Headman Nemadimbo, Ndinwana wa Liphadzi.
- ✓ A cluster of two graves both indicated by oval parked stones as grave dressings. These graves are situated at the middle part of the slope at (GPS S22°.18.24.01 "& E 30°.52.53.02"). Painted zincs were noted near the graves one painted Mia Vho Liphadzi while the second zinc has been painted Makhulu Vho Liphadzi. Next to the graves an ash midden and platforms presumed to belong to an old house structure was noted near Ash midden. (GPS S22°.18.24.01 " & E 30°.52.53.05")
- ✓ Tshavhasikana Pool associated with two young lovers who killed themselves by throwing themselves inside the pool after their parents did not approved their relationship (GPS S22°.18.32.01 "& E 30°.52.54.09").
- ✓ *Mutshato Tree*, Ne-Madimbo family used to perform their ritual dance (*Ngoma dza Malombo*) underneath this tree. Graffiti was noted on some of the rock boulders that occur underneath the tree, possibly written by the army personnel's (GPS S22°.18.21.08 "& E 30°.52.47.06").
- ✓ A single grave located underneath an *Adonsonia digitata* tree (Boabab). The grave has been indicated by along rectangular parked stones (parked like a stone wall) (GPS S22°.18.06.09 "& E 30°.52.19.07").
- ✓ An old army base ruins. The area covers approximately 400mX400m, indicated by dilapidated walls and structures foundations and cemented floors. Information at

our disposal shows that the base was abandoned in the 1979-1980 during the Zimbabwe war of liberation. This military base was shifted to the high ground since this one was near the South African border and it was possibly that the base could be Zimbabwean war of liberation target (GPS S22°.18.35.06 " & E 30°.52.21.03").

- ✓ An undulating ridge dominated by scattered shallow excavations with several mine shafts, and long trenches leading to the shafts. The surrounding surface of the area has been disturbed by mine excavations. A collapsed possibly sinkhole has been noted in the vicinity.
1. Mine shaft 001: (GPS S22°.19.26.03 "& E 30°.44.52.05").
 2. Mine shaft 002: A long narrow trench of approximately 6mX3m, more than 30m deep (GPS S22°.19.25.05 "& E 30°.44.58.06").
 3. Mine shaft 003: (GPS S22°.19.22.08 "& E 30°.44.57.02").
 4. Mine shaft 004: This seems to be the main graphite's main shaft excavation at the middle section of the ridge, while dilapidated mine buildings occur at the bottom section of the slope. The mine ruins are well represented by collapsed buildings and building foundations with cement floors. Several structures occur in this vicinity some associated with mine offices, graphite mineral conveyor belts connecting the shaft (GPS S22°.19.16.03 "& E 30°.45.03.09"). Information at our disposal show that most of the buildings were destroyed by the South African Military training operation within the area. According to the informants this graphite's mine started in the early 1950s and was forced to close during the Zimbabwean war of liberations 1979-1980.
- ✓ A collapsed stone wall approximately 2 kilometers from the mine shafts (According to the informants' headman Gumbu used to stay in this vicinity). (GPS S22°.18.56.09 "& E 30°.45.48.06"). Gumbu royal family evacuated the area in the early 1960s, according to the in formants in the early 1960s when the graphite's mine was still operational they were staying here.
 - ✓ Just below the collapsed stone wall, A single grave was noticed, indicated by parked cairn of stones (GPS S22°.18.56.06 "& E 30°.45.48.05").

- ✓ A possible grave indicated by circular parked stones was geo-referenced south of the collapsed stone wall and the marked grave (GPS S22°.18.55.07 " & E 30°.45.51.05").
- ✓ Existing Gumbu Royal Family Grave yard (GPS S22°.21.14.07 " & E 30°.47.04.02"). The area is well fenced, located on the edge of the former Venda and South African boundary. Sixteen (16) indicated graves with parked stones and granite tombstones as grave dressings were geo-referenced.
- ✓ Stone wall, the area is located on top of a rocky outcrop facing the Limpopo River, several kilometers from the river. This concentric stone wall forms the edge from a boundary wall with the central part of the site dominated by circular wall, possibly demarcating the living area. At the back side of the stone wall, a small circular wall occurs covering small carved in cave. According to headman Segonde the cave was previously used by his predecessor (GPS S22°.22.12.09 " & E 30°.39.00.01"). The area was Headman Segonde royal family headquarters. An ash midden with undiagnostic and few diagnostic ceramics that belong to the Letaba traditions was noted. The entire site covers approximately 60x40metres, to the west the site borders Popallin Ranch demarcating fence.
- ✓ A cluster of ten (10) graves, the formal grave dressings are not clear, however the area, represent the Segonde royal family grave site that is located at the bottom section of the rocky outcrop ridge (GPS S22°.19.25.03 " & E 30°.39.04.08").
 1. The slightly undulating rocky outcrop, several stone structures presumably house structures and few broken pieces of undiagnostic ceramics were noted. According to Headman Segonde the royal family first stayed here and later moved to the stone walled site (GPS S22°.19.26.08 " & E 30°.39.08.06").
 2. To the west of the Segonde royal family site, on top of the rocky ridge collapsed circular stone wall, in association with a two-meter-long intact wall section that occur to the west of the collapsed stone wall was noted (GPS S22°.19.52.05 " & E 30°.38.53.03").
 3. Cluster of two graves indicated by parked circular stones as grave dressings, below the rocky ridge outcrop (GPS S22°.19.51.04 " & E 30°.38.51.05").

10. CONCLUSION AND RECOMMENDATIONS

In conclusion, and within limitations, the study established that there are heritage sites dating to different periods in the proposed development area. The study reached the following conclusions:

The proposed development is scheduled to take place on an area previously disturbed by previous graphite mining activities.

The identified types of heritage resources within the proposed development footprints include:

- i. Old graphite mine shafts and excavated tranches and associated buildings foundations dating to the 1942.
- ii. Graves,
- iii. Stone walled sites
- iv. Historical homesteads identified by the presence of stonewalls, stone foundations and ash midden.
- v. Intangible heritage represented by sacred river pools and trees where ritual dances were performed.
- vi. Oral traditions and local community consultation revealed the occurrence of stone walls and grave sites that belongs to Ne-Madimbo and Tshenzhelani families on top of rugged rocky out crops within Madimbo military corridors. This area could not be accessed due to its sensitive nature. Should prospecting be extended to this area, a full assessment is required.

Flowing from these conclusions, the following recommendations were reached:

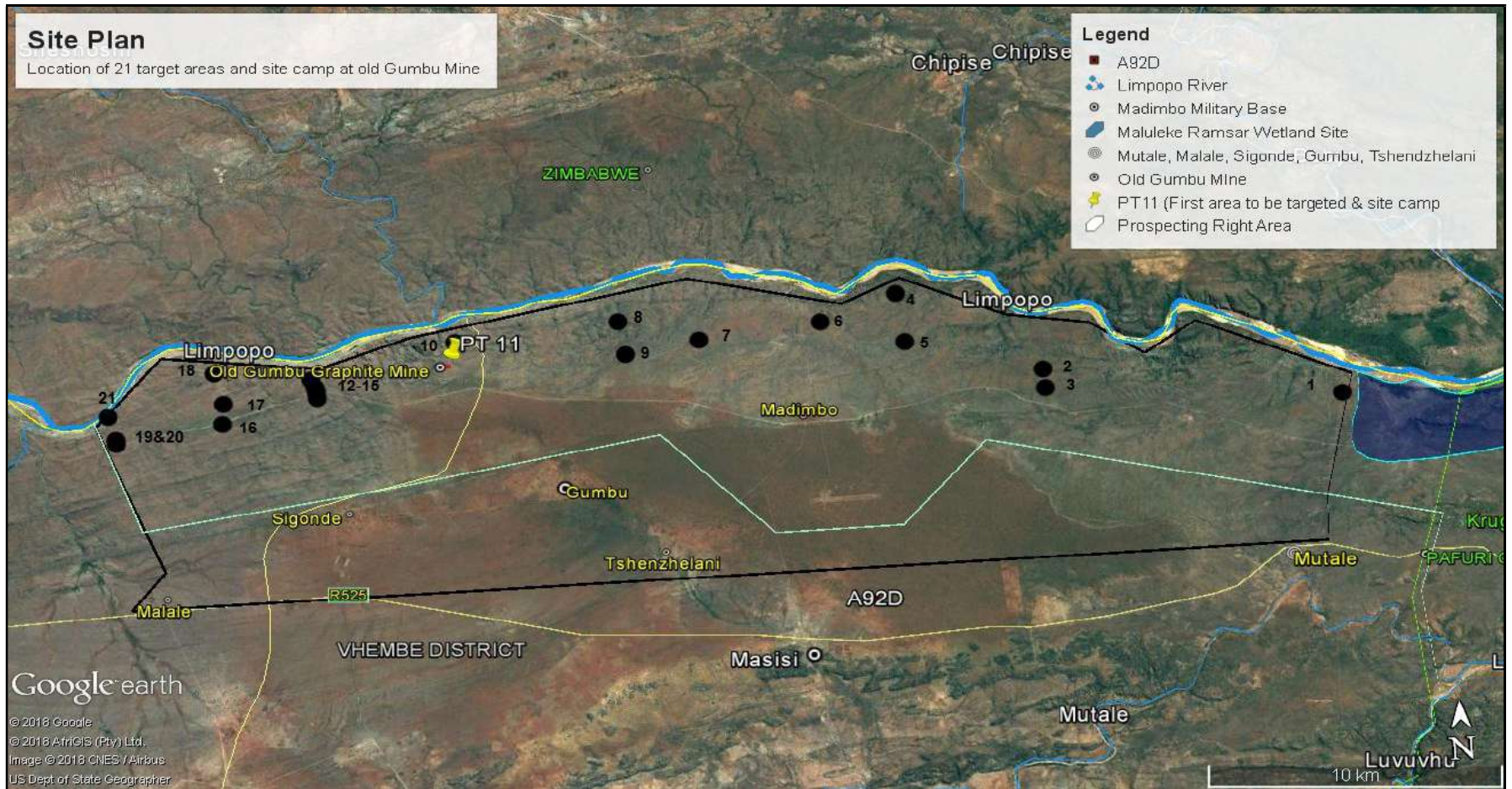
It is strongly recommended that the planning of sites proposed for development activities including the design and siting of access routes must where possible avoid heritage sites. Where this is not possible, proper impact and mitigation studies must be performed as per requirements of the National; Heritage Resources Act of 1999.

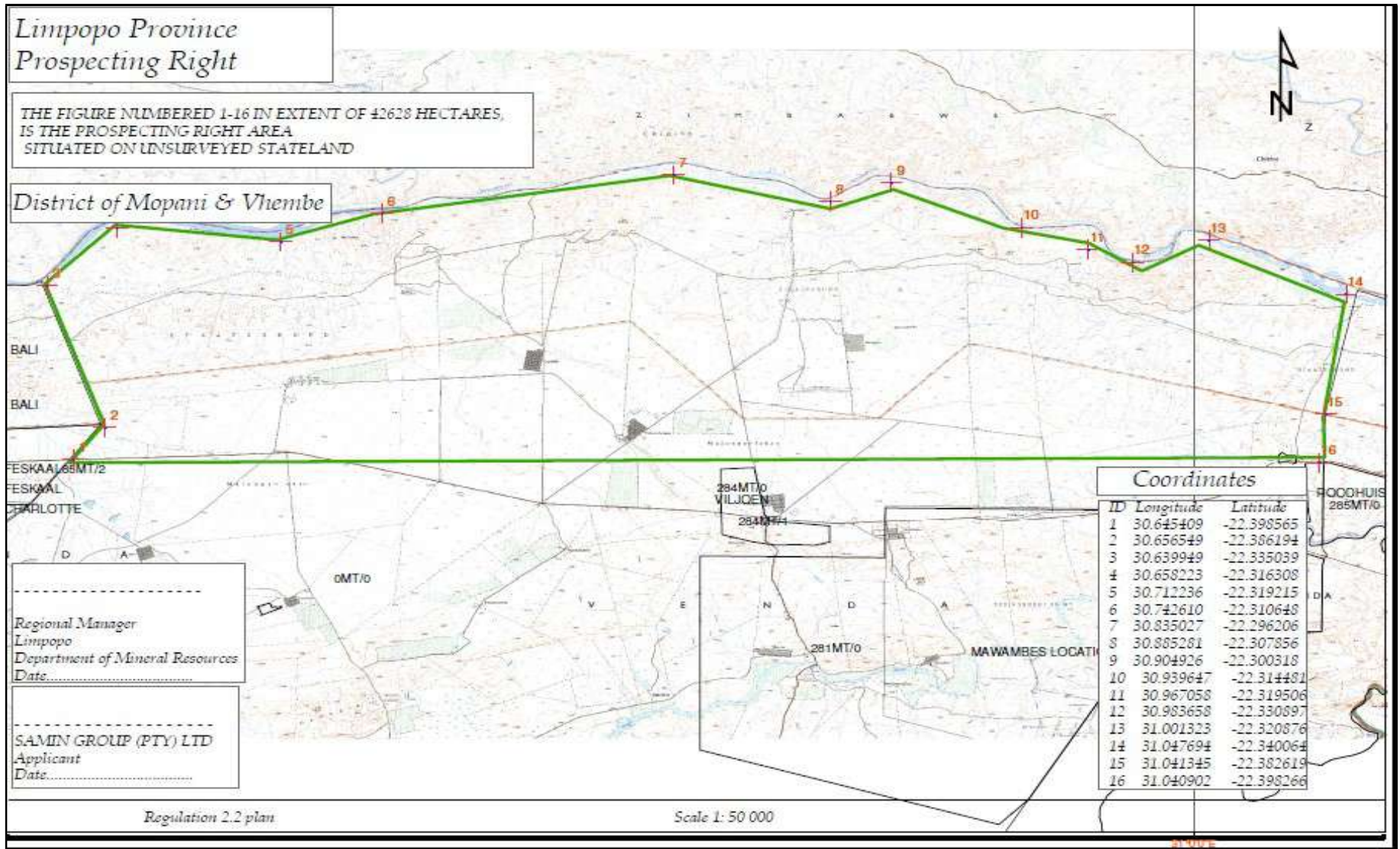
- ❖ Because of their high value, graves must be avoided and protected in situ. However, in cases where this is not possible, they must be exhumed by qualified professionals.
- ❖ Should the proposed development affect hut floors, great caution is required because previously these were used as burial sites for infants and still born babies by Vha-Venda.
- ❖ Consulted historical records showed that the mineshafts and the associated mining remnants are approximately 60 years old and as such are protected by the

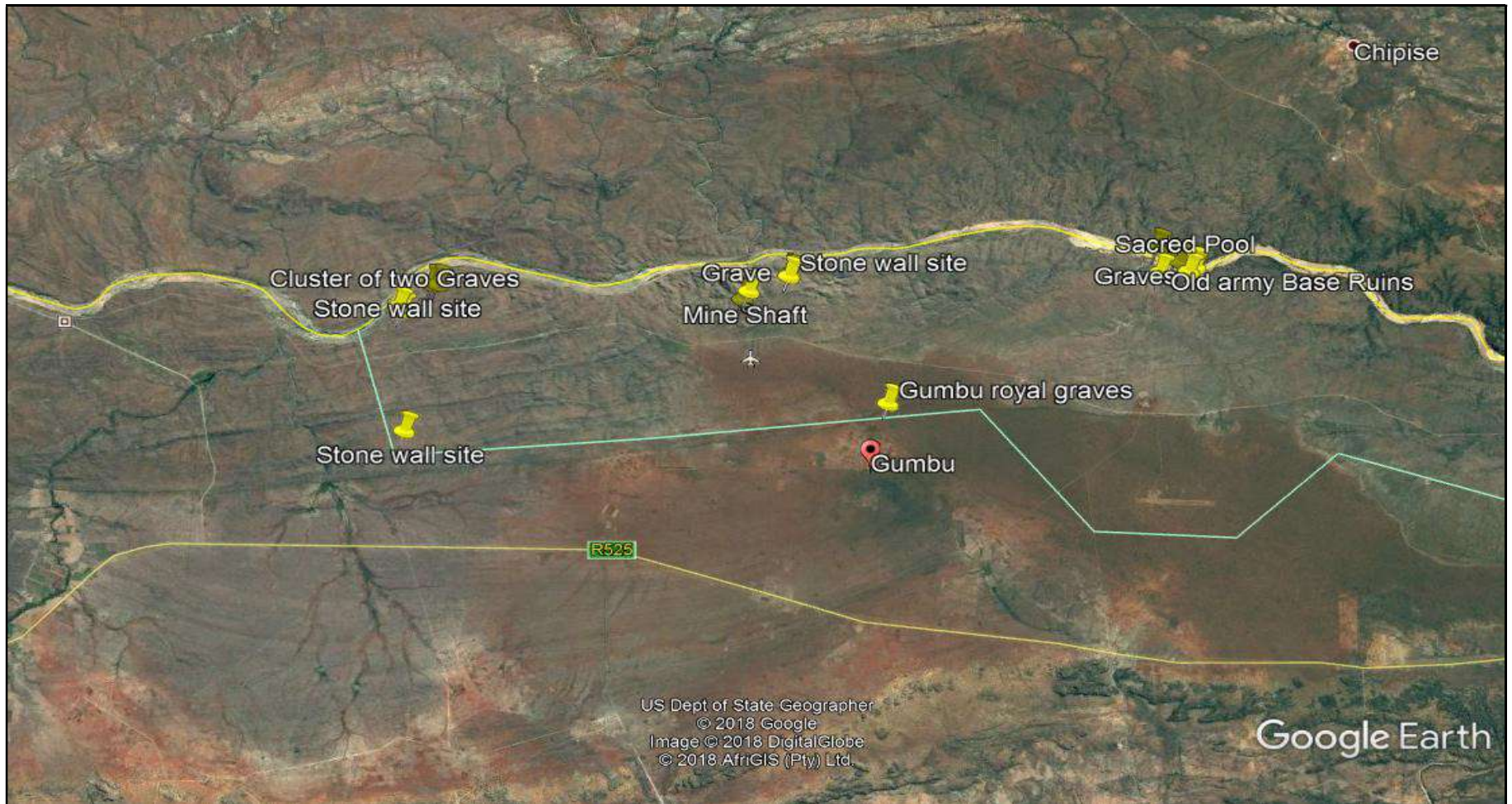
provisions of the National Heritage Act 25 of 1999. It is recommended that these sites be documented and mapped in the event they are affected by the proposed development. However, permits for such work must be obtained from a competent heritage body.

- ❖ Based on the above a full heritage including a Paleontological impact assessment must be conducted should the client proceed to apply for a mining license.
- ❖ Should chance finds be recovered in the process of development, work must be stopped immediately. A report must be made to the nearest heritage authority.
- ❖ Notwithstanding the limitations of this study, it is recommended that the prospecting be authorized subject to the proviso that heritage sites are avoided and where they cannot be avoided, a proper plan must be put in place to mitigate the sites as per the provisions of the National Heritage Resources Act.

11. GOOGLE EARTH MAP AND SITE LAYOUT PLAN







PROFESSIONAL DECLARATION

I, the undersigned Mr. Ndivhuho Eric Mathoho hereby declare that I am a Professional archaeologist accredited with the Association for South African Professional Archaeologists (ASAPA) and that Millennium Heritage Group (Pty) Ltd is an independent Consultants with no association or with no any other interest what so ever with any institution, organization, or whatever and that the remuneration earned from consulting work constitute the basis of company livelihood and income.

Mr. Mathoho Ndivhuho Eric



.....
Archaeologists and Heritage Consultants for Millennium Heritage Group (Pty) Ltd
ASAPA Member

12. REFERENCE

- Acocks, J.P.H. 1975. *Veld Types of South Africa*. Memoirs of the Botanical Survey of South Africa, No.40. Pretoria: Botanical Research Institute.
- Deacon, J. 1997. Report: Workshop on Standards for the Assessment of Significance and Research Priorities for Contract Archaeology. *South African Association of Archaeology*. No. 49,
- Deacon, H.J. and Deacon, J., 1999. *Human beginnings in South Africa: uncovering the secrets of the Stone Age*. Rowman Altamira.
- Esterhuysen, A., 2007. The Earlier Stone Age. In Bonner, P., Esterhuysen, A., Jenkins, T. (eds.): *A Search for Origins: Science, History and South Africa's (Cradle of Humankind)*, Johannesburg: Wits University Press. Pg 110 -121.
- Forssman, T.R., 2011. *The Later Stone Age occupation and sequence of the Mapungubwe landscape* (Doctoral dissertation).
- Holm, S.E. 1966. *Bibliography of South African Pre- and Protohistoric archaeology*. Pretoria: J.L. van Schaik
- Huffman, T. N., 2007. The Early Iron Age at Broederstroom and around the 'Cradle of humankind'. In Bonner, P., Esterhuysen, A., Jenkins, T. (eds.): *A Search for Origins: Science, History and South Africa's (Cradle of Humankind)* Johannesburg: Wits University Press. Pg 148 -161.
- Klein, R. G. (2000). The Earlier Stone Age of southern Africa. *The South African Archaeological Bulletin*, 107-122.
- Kuman, K., Gibbon, R.J., Kempson, H., Langejans, G., Le Baron, J.C., Pollarolo, L. and Sutton, M., 2005. Stone Age signatures in northernmost South Africa: early archaeology of the Mapungubwe National Park and vicinity. *From tools to symbols: From early Hominids to modern Humans*, pp.163-183.
- Mason, R.J. 1962. *Prehistory of the Transvaal*. Johannesburg: Witwatersrand University Press.
- Maggs, T. 1984. The Iron Age south of the Zambezi, in Klein, R. G 1984. *South African Prehistory and Paleo environments*. A.A.Balkema/Rotterdam
- Maggs. T. 1986. The early History of the Black people in southern Africa, in Cameroon. T. & S.B. Spies. 1986. An illustrated history of South Africa, Jonathan Ball Publisher, Johannesburg.
- Mitchell, P. 2002. *The archaeology of South Africa*. Cambridge: Cambridge University Press.
- Mitchell, P. & G. Whitelaw. 2005. The Archaeology of southernmost Africa from c.2000 BP to the Early 1800s: A review of Recent Research: *The journal of African History*, Vol 46, No2, pp 209-241.

- Parkinton, J. Morris D. & Rusch, N. 2008. *Karoo rock engravings*. Krakadouw Trust publisher.
- Pearce, D., 2007. Rock Engraving in the Magaliesberg Valley. In Bonner, P. Esterhuysen, A., Jenkins, T. (eds.): *A Search for Origins: Science, History and South Africa's (Cradle of Humankind)*. Johannesburg: Wits University Press. Pg136 - 139.
- Philipson, D.W. 1976. The Early Iron Age in eastern and southern Africa critical re appraisal. *Azania* 11.1-23
- Philipson, D.W. 1977. *The later Prehistory of Eastern and Southern Africa*. Heinemann Publication, London.
- Philipson, D.W. 1993. *African archaeology*, Cambridge University Press
- Philipson, D.W. 2005. *African archaeology*, Cambridge: 3rd edition, Cambridge University Press
- SAHRA, 2005. *Minimum Standards for the Archaeological and the Palaeontological Components of Impact Assessment Reports*, Draft version 1.4.
- Tobias. P.V 1985. Hominid evolution- past present and future, New York
- Tobias. P.V. 1986. The last million years in southern Africa. In Cameroon. T. & S.B. Spies. 1986. An illustrated history of South Africa, Jonathan Ball Publisher, Johannesburg.
- Tobias. P.V. 1986. The dawn of the Human family in Africa. In Cameroon. T. & S.B. Spies. 1986. An illustrated history of South Africa, Jonathan Ball Publisher, Johannesburg
- Sumner, T. A., & Kuman, K. (2014). Refitting evidence for the stratigraphic integrity of the Kudu Koppie early to middle Stone Age site, northern Limpopo Province, South Africa. *Quaternary International*, 343, 169-178.
- Van Schalkwyk, J. A. 2006. *Investigation of archaeological features in site A of the proposed Pumped Storage Power Scheme, Lydenburg district, Mpumalanga*. Unpublished report 2006KH78. Pretoria: National Cultural history museum.
- Van Warmelo, N. J. 1935. *Preliminary survey of the Bantu Tribes of South Africa*. Ethnological Publications No. 5. Pretoria: Government Printer.
- Wadley. L., 2007. The Middle Stone Age and Later Stone Age. In Bonner, P., Esterhuysen, A., Jenkins, T. (eds.): *A Search for Origins: Science, History and South Africa's 'Cradle of Humankind'*. Johannesburg: Wits University Press. Pg122 -135.Strategic

13. PHOTO ADDENDUM



Figure 2:A single grave indicated by parked stones as grave dressings (Headman Ne-Madimbo ndi nwana wa Liphadzi)



Figure 3: Cluster of two graves indicated by parked stones as grave dressings (Mia Vho-Nemadimbo and Makhulukuku Vho- Liphadzi)



Figure 4: View of Tshavhasikana pool



Figure 5: View of the Mutshato tree where ritual dance was performed, note the nearby Boulders with graffiti



Figure 6: A single grave underneath a Baobab tree



Figure 7: Old military base, indicated by cement foundations



Figure 8: Old Gumbu Mines shafts



Figure 9: Collapsed mine structures that includes offices and processing plant



Figure 10: Collapsed stone wall on a rocky ridge



Figure 11: A single grave and a possible grave, associated with Head man Gumbu



Figure 12: Gumbu royal Grave yard



Figure 13: Stone wall site on top of a rocky ridge



Figure 14: Ceramics collected from the surface of the site.



Figure 15: Stone wall site facing the Limpopo River, Sigonde area



Figure 16: Possible cluster of two graves at the bottom slope of the ridge were stone wall was geo-referenced.