

# **MILLENIUM HERITAGE GROUP (Pty) Ltd**

## **PHASE 1**

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### **ARCHAEOLOGICAL IMPACT ASSESSMENT**

#### **RELATING TO MINING RIGHTS ON FARM KAFFIRSKRAAL 400IP NEAR**

#### **KLERKSDORP**

#### **NORTHWEST PROVINCE**



*Compiled for:*

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## **EXECUTIVE SUMMARY**

The proposed study area is situated approximately 12kilometers west of Klerksdorp CBD. The proposed Mining rights area span across 5hectors of slightly undulating land to the north dominated by rocky outcrop, and the lower section of the area slightly flat generally covered by variety of grass species, scattered bush and isolated trees. Sections of the farm has been disturbed by gravel extraction activities represented by the presence of two borrow pits with extracted soil mounds stockpiled nearby. For this study a multi-stepped methodology was used to address the terms of reference. To begin with, a robust desktop study was carried out to understand the framework for sites assessment, management and preservation. This included consulting the 1972 Convention, the operational guidelines of 2013, the ICOMOS (2011) guidelines on assessing impact on or near Heritage sites. The IUCN guidelines and standards of best practice were also consulted. Subsequently, a review of the archaeology of the area was carried out using contract archaeology reports, research reports and academic publications. Desktop studies were followed by fieldwork carried out by archaeologists and heritage managers in conformity with the National Heritage Resources Act of 1999. Based on an interdisciplinary methodology, that combined ICOMOS methodology with several techniques from various disciplines, the impact of the proposed mineral prospecting was considered. The following conclusions were reached:

1. The proposed mine development is scheduled to take place on slightly flat section further west of the rocky outcrop and the old excavated area (Borrow pits). The entire farm has been subdivided into small farm holdings which encompasses residential, cultivation, and livestock grazing area.
2. Based on the current information obtained for the area during the initial site visit two sensitive areas were geo-referenced, these are burial ground sites (Cemeteries). The burial grounds are major source of concern, however mining activities may proceed from the disturbed area without any detrimental effect to the identified grave yards. The developer in this regards Zelpy Mining Company

should take note of graveyards locations and the planning team should ensure that a small management plan is set in place to ensure future safety of these graves. The management plans would ensure that family members gain access to visit their beloved graves through the entire mining process. Anticipated project activities should be altered and should be planned around these graveyards in order to protect them from cumulative impacts that may occur during mine constructions and operational phase. It is strongly recommended that the identified graveyards should be clearly marked or fenced with a 50m buffer zones around.

3. It is strongly recommended that mine engineering aspects such as access routes, tailing and quarry dams, water, and sewage and electricity lines should be designed not to disturbed these burial grounds. The recommendations provided and outlined on this report should be incorporated into the Mine Management Plan and should be followed and adhered to, as graves has high significance value to family members and are protected by law.

- ✓ However should the above became unavoidable grave yards can also be exhumed and relocated. The exhumation process are regulated by various legislations, regulations and administrative procedures. This task is undertaken by Forensic archaeologist and reputed undertakers who are acquainted with all administrative procedures and relevant legislation that have to be adhered to whenever human remains are exhumed and relocated. This process also includes social facilitations process with 60 days statutory notice period for grave older than sixty years. Permission of exhumations and relocation have to be obtained from the decedents of the deceased, the National Department of Health, the provincial department of Health, The Premier of the Province and the Local Police.

From an archaeological and cultural heritage resources perspective, should the recommendations be followed there are no objections to the proposed mine and we

recommend to South African Heritage Resources Authorities (SAHRA) or Provincial Heritage Resource authority to approve the project.



**ACKNOWLEDGEMENTS:**

**CLIENT NAME: Zelpy Mining Company**

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

Zelpy Mining CC commissioned studies for the proposed Mining rights on farm Kaffirskraal 400IP near Klerksdorp in the Northwest Province. To ensure that the proposed development meets environmental requirements in line with the National Environmental Management Act 107 of 1998 as amended in 2010, they appointed Millennium Heritage Group (PTY) LTD to undertake archaeological impact assessment of the proposed project.

The proposed activities is 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 Zelpy Mining intend to carry out Mineral prospecting activities on farm Kaffirkraal 400IP. 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 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.

In order to comply with relevant legislations, the applicant (Zelpy Mining) 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 in order to inform and guide planning on decision making. The study serve as a statutory frame of reference on archaeology and heritage sites that occur within the proposed study area. The document enable the developer to align their functions and responsibilities in order to facilitate forward planning in minimizing impact on archaeological and heritage sites. Archaeological/ 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. The South African Heritage Resources Agency

developed minimum standards for impact assessment, In addition to these local standards, the International Council of Monuments and Sites (ICOMOS) published guideline for assessing impacts. The Burra Charter of 1999, require a caution approach to the management of sites, it set out the need to understand the significance of heritage places, and the significance guide decisions.

The proposed study serve as framework tools which ensure that the National Heritage Resources Act (25 of 1999) and the ICOMOS standard principles are applied, in an effective and equitable manner in order to avoid loss and disturbance of heritage sites in the study area. This will enable applicant to take pro-active measures to limit the adverse effects that the development could have on such heritage resources. Information presented in this report form the basis of Archaeological resources assessment of the proposed project as the proposal constitutes an activity, which may potentially have direct or indirect impact to heritage resources that may occur in the proposed study area.

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 material (Section 35) and graves and burial sites (Section 36). In order to comply with the legislation, the applicant requires information on the heritage resources, and their significance that occur in the demarcated area. 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 study with regards to the protection of heritage resources and graves.

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

This Act established the South African Heritage Resource Agency (SAHRA) as the prime custodians 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 discover archaeological or Paleontological object or material or a meteorite in the course of development or agricultural activity must immediately report the find to the responsible heritage resource authority or the nearest local authority or museum, which must immediately notify such heritage resources authority.

**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 the purpose of obtaining information on whether or not 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 week 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 in the course of 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 the purpose of obtaining information on whether or not 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 make arrangements 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 an Archaeological Impacts Assessment on farm Kaffirskraal 400 IP near Klerksdorp, North West Province 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 particular 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 20<sup>th</sup> 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 in the near future, 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 distinguish graves and cemeteries as well as ideologically significant features such as holy mountains, initiation sites or other sacred places. Graves in particular 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 with regard to their ancestors. These values have to 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 (3 Million 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 17<sup>th</sup> and the 19<sup>th</sup> 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 refers 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***

Most of the information was obtained through the initial site visit made on the 5<sup>th</sup> of October 2015 by Mr. Mathoho Eric where systematic inspections were covered along linear transects which resulted in the maximum coverage of the entire site. Standard archaeological observation practices were followed; Visual inspection was supplemented by relevant written source, and oral communications with local communities from the surrounding area. In addition, the site was recorded by hand held GPS and plotted on 1:50 000 topographical map. 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 a given 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.

## **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 were 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 guideline 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 as guidelines in determining the site significance for the purpose of this report.

The classification index is represented in the Table below.

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

## *Grading and rating systems of heritage resources*

### **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 fairly common elsewhere, would have a significance rating of HIGH over the long term, as the area could be rehabilitated.

**Example:** The change to soil conditions will impact the natural system, and the impact on affected parties (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 fairly 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 a fairly 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 as a result 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 particular fact. Substantial supportive data exist to verify the assessment.

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

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

**UNSURE:** Less than 40% sure of a particular fact, or 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. A Brief background to the greater study area**

### **Stone Age (Esa, Msa and Lsa) and the Iron Age**

North West province is marked by outstretch of plains, rocky outcrops, grassland and Thornveld with strong trees growth along major rivers. Most of these sites preferably springs and fountains are surrounded by evidence of Stone Age occupations. Evidence of Stone Age within the study area dates back to 500 000 years ago, this time period is associated with the earliest Homo predecessors who lived near water source. These sites are represented by caches of stone tools manufactured from dolerites with Sangoan feature has been found.

These tools were simple meant 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 (Esteyhuysen, 2007). They may have preyed on a drowned or

crippled animals or shared a kill by another predator, which explains why at some ESA sites 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 and have been reported from a wide range of areas in South Africa. These stone tools products were astonishingly similar across the geographical and chronological distribution of the Acheulian techno-complex: large flakes that were suitable in size and morphology for the production of hand axes and cleavers perfectly suited to the available raw materials (Sharon, 2009). Evidence presented from Sterkfontein cave 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 (Esteyhuysen, 2007). Both the Oldwan and Acheulian industries are well represented in the archaeology of the North West, Northern Cape and Gauteng Province in the Cradle of Humankind from sites (Strekfontein and Kromdraai).

These discoveries have made considerable contribution to the body of scientific knowledge in the subject of tool manufacturing process in association with human evolutions. The Middle Stone Age dates back to about 250 000 ago ending at around 25 000 years ago. 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, behavior, physical appearance, art, and symbolism. Various stone artifact industries occur during this time period, although less is known about the time prior to 120 000 years ago, extensive systemic archaeological research is being conducted on sites across southern Africa dating within the last 120 000 years (Thompson & Marean, 2008). Surface scatters of these flake and blade industries occur widespread across southern Africa although rarely with any associated botanical and faunal remains. It is also common for these stone artifacts to be found between the surface and approximately 50-80cm below ground. Fossil bone may be associated with MSA occurrences. These stone

artifacts, like the Earlier Stone Age hand axes are usually observed in secondary context with no other associated archaeological material.

An early South African Middle Stone Age stone artifact industry referred to as the Mangosian had a very wide distribution stretching across Limpopo, the eastern Orange Free State, around Cape Point and Natal (Malan 1949). This stone artifact industry, according to the period, may have represented the final development that the prepared core technique of the Middle Stone Age reached prior to its replacement by the microlithic techniques of the Later Stone Age. Malan (1949) also made mention that there are variations of Middle Stone Age assemblages throughout South Africa (Binnerman *et al*, 2011).

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. Residue analyses on some of the stone tools indicate that these tools were certainly used as spear heads (Widely, 2007). The presence of spear heads on some of the MSA 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 show the presence of bone tools such as bone points.

The last phase of stone tool industry is associated the late stone age. The Karoo landscape is exceptionally rich in the distribution of this phase and is characterized by wide distribution of engravings. The greatest concentrations of engravings occur on the basement rocks and the intrusive Karoo dolerites, but sites are also found on rock types including dolomite, granite, gneiss, and in a few cases on sandstone (Morris, 1988). Most of these paintings depict a wide variety of the fauna of the artistic renderings of animal such as giraffes and other large grazers and mixed feeders such as zebra, wildebeest, hartebeest, eland and buffalo (Parkinton et al. 2008) Late Stone age period is associated with the use of micro- lithic stone tools. On farm fourteen stream Rossouw (2008) recorded a rock art site with over 80 different rock engravings in close proximity to the Vaal River bank. Since there are no caves or rock shelters in the study

area no LSA sites of significance were recorded and no isolated finds or occurrence were recorded. The above also applies to the early and Middle Iron Age. The study area is well represented during the historical era associated with the arrival of the white communities.

### **Brief History of Klerksdorp**

Klerksdorp was founded in 1837 when the Voortrekker settled on the banks of the Schoonspruit River which transverse the town. The first to settle includes C.M du plooy, who settled on farm called Elandsheuwel which covers approximately 160km<sup>2</sup>. Mr du plooy gave plots and communal grazing rights of the farm to the Voortrekker in return for their assistance in building a dam and an irrigation canal. This collection small holding was later given the name of Klerksdorp after the first Magistrate of the area Jacob de clerg. In August 1886 gold was discovered in the Klerksdorp district. The small village generally grew to a town.

### **The South African War of independence (Anglo Boer war)**

The Anglo Boer war was caused by the antagonism between the Boer and the Britons which could be traced back when the Boers decided to leave the Cape Colony after the British have taken the Cape Colony in 1806. The Transvaal burghers held a series of meeting at which the restoration of independence received strong support. Relation between Transvaal and British rule were inaugurated with the Pretoria Conventions of 1881, however a series of accompanying conditions prevented the Boers from acting independently. In January 1884 the newly elected President Paul Kruger met with Cecil John Rhodes at Veertien strome to discuss the deteriorating relationship between Britain and the Transvaal. President Paul Kruger, General N.J Smit and Rev S.J. du Toit left for London to consult with the British government on possible amendments to Pretoria Convention.

The spread of Afrikaner nationalism was regarded with increasing suspicion as a threat to British rule. At that time the Transvaal republic developed into a single best gold producer which increases state revenues and the centers of gravity shifted to Transvaal. The Boer struggle against British imperialism became the focal point of a rapidly burgeoning national

consciousness. A memorandum or Transvaal ultimatum to the British agent at Pretoria was handed, however the British did not meet the Boers demands, forty eight hours later the allied republics of Transvaal and Free State were formally at war with Great Britain. The Boer republics declared war on the 11 October 1899

Almost all British reinforcement had reached Natal before the ultimatum. The Transvaal army was commanded by General P. Joubert while the Free State was under General M. Prinsloo. Most of the commandos were well armed with the latest modern rifle. Pre-emptive strikes by joint strategic plan adopted by two republics were that they would have to neutralize the main forces already threatening their borders, and then they must adopt secure defensive position inside the colonies and try to block the advance of the British expeditionary forces after it began to arrive at the ports.

The Boer republics were more successful in three major offensives. Their commandos invaded northern Natal and besieged the town of Ladysmith. They invaded Cape colony to lay siege to the British garrison in Northern Cape. However the Boer besiegement victory was short lived, the British under Lord Roberts and Lord Kitchener turned the situation around. They eventually relieved besieged towns and eventually retook the river crossings and Kimberly town on the 15 February 1900 and Mafikeng on the 18<sup>th</sup> May 1900. On the 13<sup>th</sup> March 1900 Roberts occupied Bloemfontein the capital of Orange Free State. On 31<sup>st</sup> May British troops entered Johannesburg and on 5<sup>th</sup> June Pretoria was taken from the Boers. The most famous battle associated with the Anglo Boer war that was fought in the Klerksdorp area is the Battle of Ysterspruit. During that time General Koos de La Rey achieved a great victory and the battle is one of the most celebrated in the history of the area. It was this battle in which the Boer soldiers pioneered the sites relating to the Anglo Boer war has been recorded and indicated by Meyer (1971) Brytenbach-strydom (1970) for the greater study area.

The Boers under the leadership of Louis Botha, Christian de Wet, Jan Smuts and General de la Rey abandoned the British style of warfare, and increase their reliance on small and

mobile military units. They captured supplies and disrupt communications and undertake raids on British army. They were very successful in evading capture.

### **Concentration camps**

To flush out the Boer guerrilla tactic, Kitchener sought to deprive the Boer support systems by introducing the so called “scorched earth policy.” All farms with Livestock and crops which provided foods as well as emotional support for women and children were destroyed. Historical documents suggest that approximately 30 000 farms were burnt and available crops were destroyed and livestock’ s were removed from Boer farms. Women and children’ s were removed to what became known as concentration camps, people were living under canvass (Voster, 1999).The adopted scorch earth policy was done to restrict the Boer Movement. This policy also dramatically affected the lives of thousands of Africans, especially those who lived and worked on the farms. These concentration Camps housed more than 6000 women and children

The camps were initially run by military establishment, but in November 1901 civilian administrators took over. The death rate was very high. Deaths were mainly due to inadequate food and illness such as measles, amoebic dysentery and pneumonia. According to Rev A. J. Louw statistics the death figure was significantly higher than the figure for burgers that had been killed in action. In November 1901 approximately 178 people died within one month. Klerksdorp was actively involved in the war and also housed a large concentration camp, just under a thousand graves of the victims of the concentration camps mostly of Boer women and children can still be visited today in the old cemetery just outside of Klerksdorp CBD.

## **8. SITE LOCATION AND PROJECT DESCRIPTION**

The proposed study area is situated 12kilometers west of Klerksdorp CBD. The proposed Mineral prospecting area span across 5 of the proposed 400 hectores of farm land. The site is located on the following global positioning system co-ordinates (GPS S26°.48', 40.10" & E 26°.34'.15.27"). Generally the geology and soils of the study area is characterized by Aeolian and colluvium sand overlying sand stone, mudstone and shale

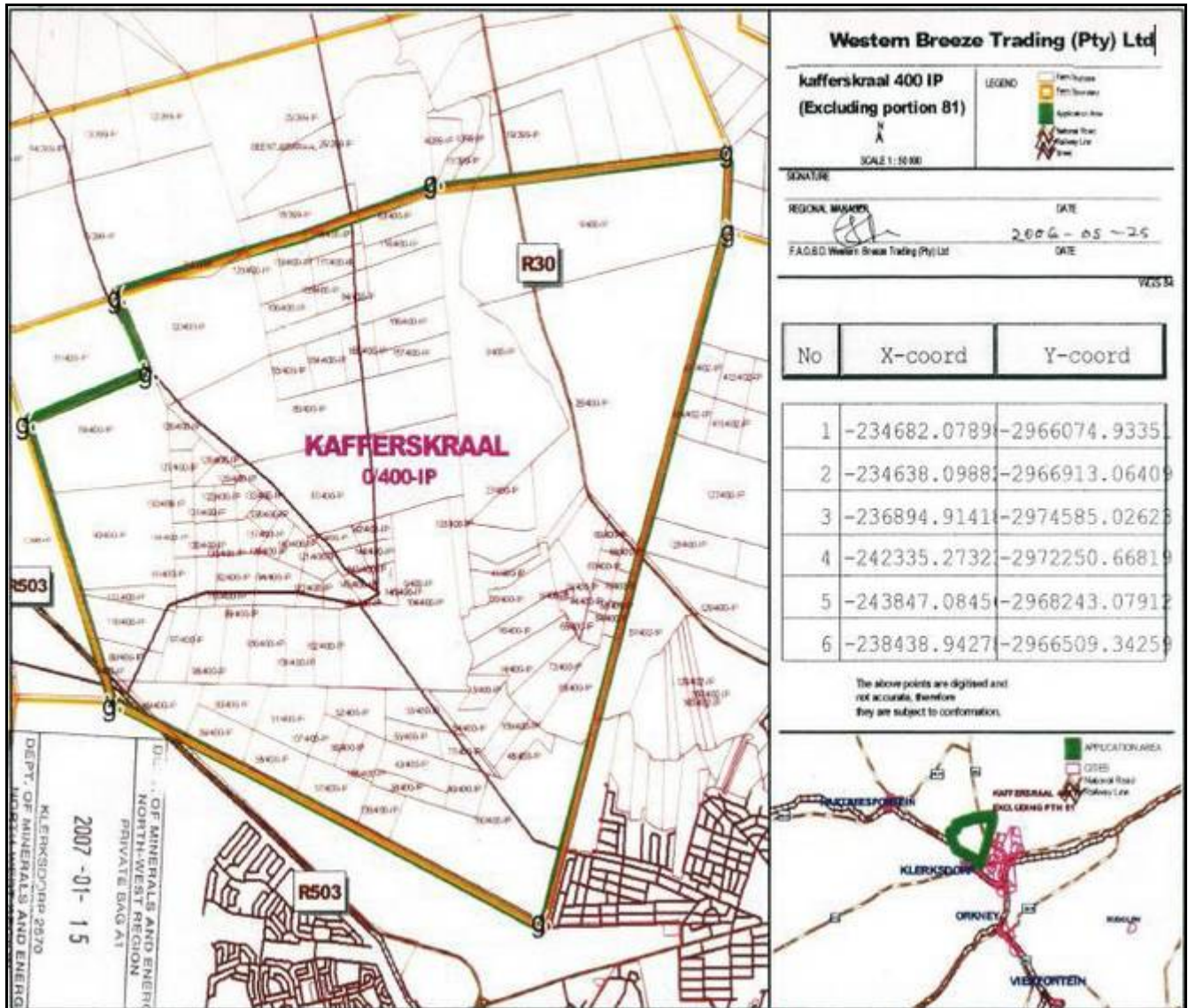
of the Karoo super group (mostly the Ecca group) as well as older Ventersdorp super group Andersite and basement Gneiss in the north. The soil form are mostly Avalon, Westleigh and Clovelly (Werger, 1978, Thomas & Shaw 1991, Mucina & Rutherford, 2006).

The vegetation of the area is characterized by Gh10, Vaal-vet sandy grassland, this type of vegetation stretches from North West and Free State province. It occur south of Lichten burg and Ventersdorp, stretching southwards to Klerksdorp to the north of Bloemfontein. The type of vegetation occur at altitude 1220-1560m, generally 1260-1360m. The proposed study area is dominated by irregular undulating plains and hills dominated mainly of low-tussock grassland with an abundant karroid element. Dominance of *Themenda triandra* is an important feature of this vegetation unit. The south and north of the study area is currently subjected to agricultural cultivations represented by cultivated land with seasonal crops and the presence of pivot irrigation system. Locally low cover of *Themeda triandra* and the associated increase in *Elionurus muticus*, *cymbopogon pospischulli* and *Aristida congesta* is attributed to heavy grazing and erratic rainfall (Mucina & Rutherford, 2006).

The proposed development entails:

- ✓ Underground drillings of core rock sample with interval excavations in order to determine base geological stratigraphy with gold deposit.









**Figure 1:** View of the study area towards the west dominated by grass cover and isolated bush, note livestock grazing.



**Figure 2:** View of the study area towards the north





**Figure 3:** View of the study area towards the north, note the rocky outcrop at the photo background

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## **9. ASSESSMENT OF SITES AND FINDS**

This section contains the results of the heritage site/find 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 mine on the farm Kaffirskraal 400 IP near Klerksdorp, North West Province.

### **Find Assessments Results:**

- ✓ Cemetery has been geo-referenced alongside the main access paved road in close proximity of residential stands. The cemetery is represented by 105 marked graves most indicated by parked stones as grave dressings only one grave has been indicated by granite tombstone as grave dressings.

- ✓ A second Cemetery has been geo-referenced approximately 500meters south of the residential stands, further south of the rocky outcrop. The cemetery is in close proximity to farm boundary fence. The burial ground is represented by 108 graves most indicated by rectangular paved mounds paved with stones and bricks as grave dressings, while others are represented by cement head rest and granite tombstones as grave dressings.

Cemetery sites recorded during the survey are shown in table1

Sites	GPS co-ordinates	Sensitivity
1. Cemetery (105) graves	GPS S26° .48', 45.6"& E 26° . 34'.11. 1"	High
2. Cemetery(108)graves	GPS S26° .48',39.8"& E 26° .34'.28. 4"	High



**Figure 4:** View of the first graveyard in close proximity to residential area





**Figure 5:** View the second geo-referenced cemetery



**Figure 6:** View of the study area showing sensitive areas recorded during the initial site survey, the map was adopted from Google Earth program.

### **Identified Sites significance**

The significance of the identified burial ground and grave sites has been indicated by means of stipulations derived from the National Heritage Resources Act (Act No 25 of 1999).

#### **➤ *Informal graves and Formal Burial Ground (Cemeteries)***

Informal and formal Burial ground (Cemeteries) can be considered to be of high significance and are protected by various laws. Legislation with regard to graves includes the National Heritage Resources Act (no 25 of 1999) this Act applies whenever graves are older than sixty years. The Act also distinguishes various categories of graves and burial grounds. Other legislation with regards to graves includes those which apply when graves are exhumed and relocated, namely the Ordinance on exhumation (Ordinance no 12 of 1980) and the Human Tissue Act (Act no 65 of 1983 as amended).

## **10. CONCLUSION AND RECOMMENDATIONS**

Based on an interdisciplinary methodology, that combined ICOMOS methodology with several techniques from various disciplines, the impact of the proposed mineral prospecting was considered. The following conclusions were reached:

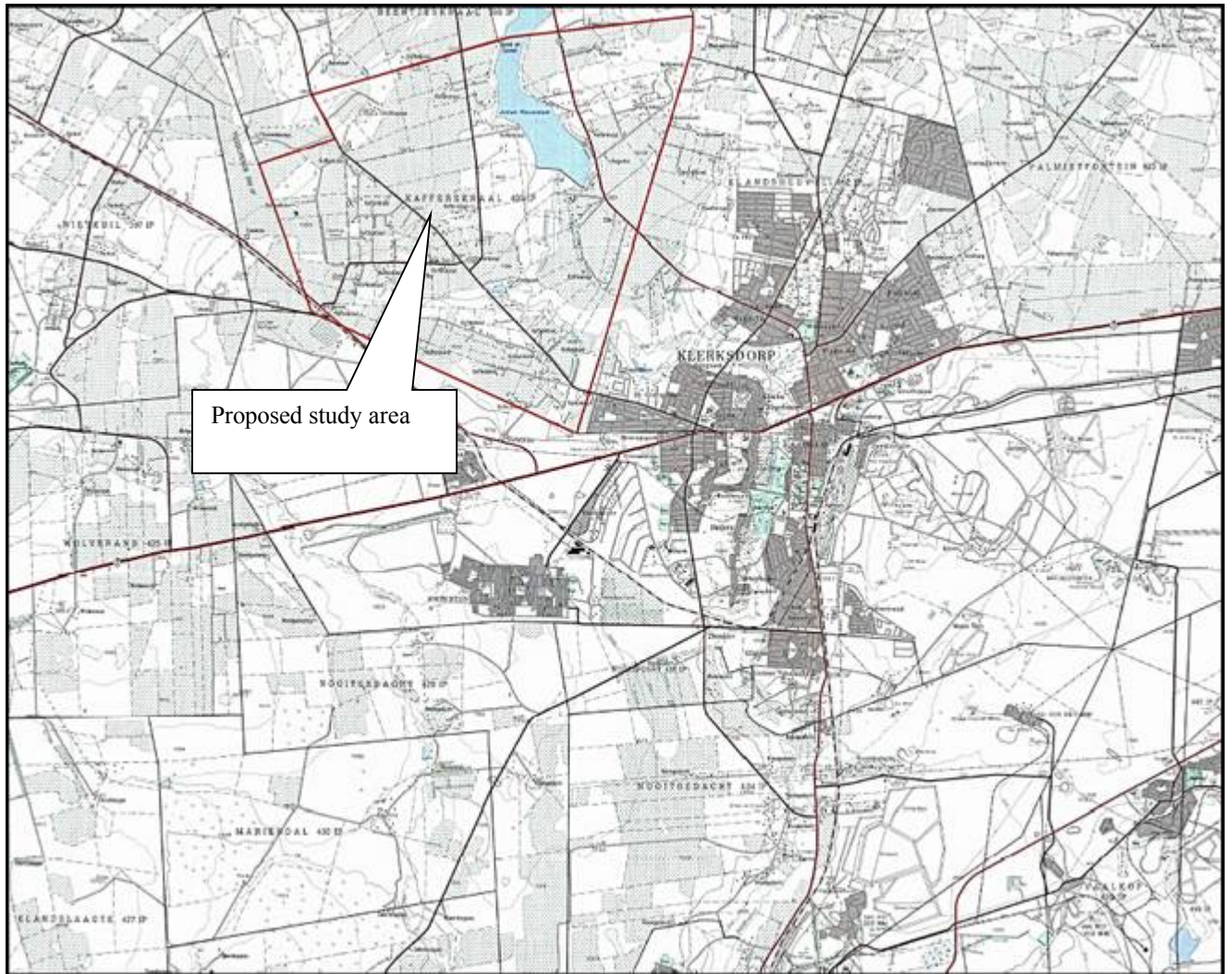
The proposed mine development is scheduled to take place on slightly flat section further west of the rocky outcrop. The entire farm has been subdivided into small farm holdings which encompasses residential, cultivation, and livestock grazing area. Based on the current information obtained for the area during the initial site visit two sensitive areas were geo-referenced, these are burial ground sites (Cemeteries). The burial grounds are major source of concern, however mining activities may proceed from the disturbed area without a detrimental effect to the identified grave yards. It is strongly recommended that these graveyards sites be left intact. The developer in this regards Zelpy Mining should take note of graveyards locations and the planning team should ensure that a small management plan is set in place to ensure future safety of these graves. The management

plans would also ensure that family members gain access to visit their graves through the entire mining process. Anticipated project activities should be altered and should be planned around these graveyards in order to protect them from cumulative impacts that may occur during mine constructions and operational phase. It is strongly recommended that the identified graveyards should be clearly marked, and fenced with a 50m buffer zones around. It is strongly recommended that mine engineering aspects such as access routes, tailing and quarry dams, water, and sewage and electricity lines should be designed not to disturbed these burial grounds. The recommendations provided and outlined on this report should be followed and adhered to, as graves has high significance value to family members and are protected by law. However should the above became unavoidable grave yards can also be exhumed and relocated. The exhumation process are regulated by various legislations, regulations and administrative procedures. This task is undertaken by Forensic archaeologist and reputed undertakers who are acquainted with all administrative procedures and relevant legislation that have to be adhered to whenever human remains are exhumed and relocated. This process also includes social facilitations process with 60 days statutory notice period for grave older than sixty years. Permission of exhumations and relocation have to be obtained from the decedents of the deceased, the National Department of Health, the provincial department of Health, The Premier of the Province and the Local Police.

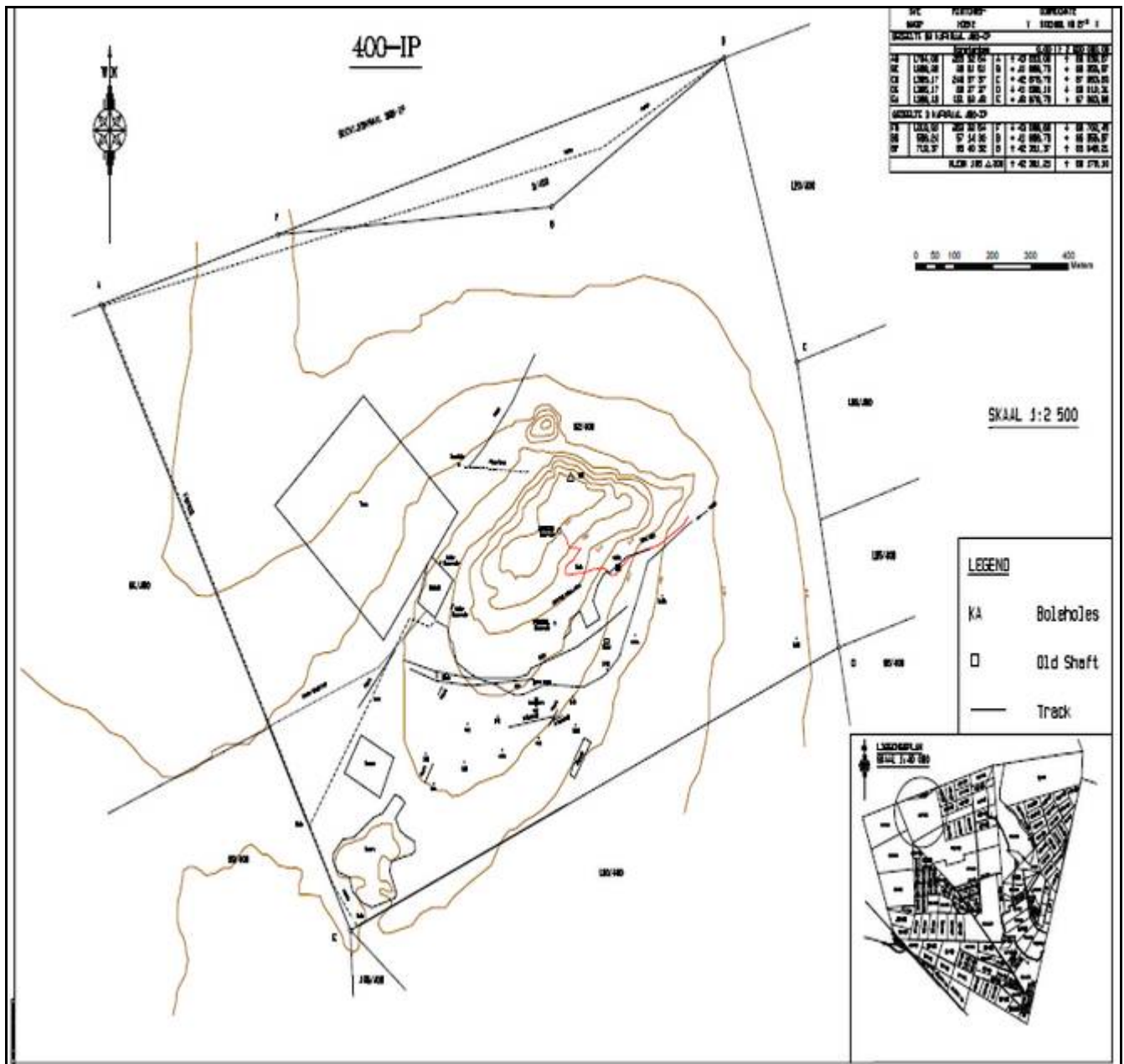
From an archaeological and cultural heritage resources perspective, should the recommendations be followed there are no objections to the proposed mine and we recommend to South African Heritage Resources Authorities (SAHRA) or Provincial Heritage Resource authority to approve the project.



## 11. TOPOGRAPHICAL 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



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

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