



LESEGO PLATINUM MINE PTY (LTD): LESEGO PLATINUM MINE, SEKHUKHUNE AREA, STEELPOORT, LIMPOPO PROVINCE

Archaeological Impact Assessment Report

June 2013

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Compiled by N. Kruger



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ARCHAEOLOGICAL IMPACT ASSESSMENT (AIA) FOR THE LESEGO PLATINUM MINE DEVELOPMENT, SEKHUKUNE AREA, LIMPOPO PROVINCE

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I, Nelius Le Roux Kruger, declare that –

- I act as the independent specialist;
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the relevant Heritage Legislation (National Heritage Resources Act no. 25 of 1999, Human Tissue Act 65 of 1983 as amended, Removal of Graves and Dead Bodies Ordinance no. 7 of 1925, Excavations Ordinance no. 12 of 1980), the Minimum Standards: Archaeological and Palaeontological Components of Impact Assessment (SAHRA and the CRM section of ASAPA), regulations and any guidelines that have relevance to the proposed activity;
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- All the particulars furnished by me in this form are true and correct.

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NOTATIONS AND TERMS

Absolute dating:

Absolute dating provides specific dates or range of dates expressed in years.

Archaeology:

The study of the human past through its material remains.

Archaeological record:

The archaeological record minimally includes all the material remains documented by archaeologists. More comprehensive definitions also include the record of culture history and everything written about the past by archaeologists.

Artefact:

Entities whose characteristics result or partially result from human activity. The shape and other characteristics of the artefact are not altered by removal of the surroundings in which they are discovered. In the southern African context examples of artefacts include potsherds, iron objects, stone tools, beads and hut remains.

Assemblage:

A group of artefacts recurring together at a particular time and place, and representing the sum of human activities.

¹⁴C or radiocarbon dating:

The ¹⁴C method determines the absolute age of organic material by studying the radioactivity of carbon. It is reliable for objects not older than 70 000 years by means of isotopic enrichment. The method becomes increasingly inaccurate for samples younger than ±250 years.

Ceramic Facies:

In terms of the cultural representation of ceramics, a facies is denoted by a specific branch of a larger ceramic tradition. A number of ceramic facies thus constitute a ceramic tradition.

Ceramic Tradition:

In terms of the cultural representation of ceramics, a series of ceramic units constitutes as ceramic tradition.

Context:

An artefact's context usually consists of its immediate *matrix*, its *provenience* and its *association* with other artefacts. When found in *primary context*, the original artefact or structure was undisturbed by natural or human factors until excavation and if in *secondary context*, disturbance or displacement by later ecological action or human activities occurred.

Culture:

A contested term, "culture" could minimally be defined as the learned and shared things that people have, do and think.

Cultural Heritage Resource:

The broad generic term *Cultural Heritage Resources* refers to any physical and spiritual property associated with past and present human use or occupation of the environment, cultural activities and history. The term includes sites, structures, places, natural features and material of palaeontological, archaeological, historical, aesthetic, scientific, architectural, religious, symbolic or traditional importance to specific individuals or groups, traditional systems of cultural practice, belief or social interaction.

Cultural landscape:

A cultural landscape refers to a distinctive geographic area with cultural significance.

Cultural Resource Management (CRM):

A system of measures for safeguarding the archaeological heritage of a given area, generally applied within the framework of legislation designed to safeguard the past.



Ecofact:

Non artefactual material remains that has cultural relevance which provides information about past human activities. Examples would include remains or evidence of domesticated animals or plant species.

Excavation:

The principal method of data acquisition in archaeology, involving the systematic uncovering of archaeological remains through the removal of the deposits of soil and the other material covering and accompanying it.

Feature:

Non-portable artefacts, in other words artefacts that cannot be removed from their surroundings without destroying or altering their original form. Hearths, roads, and storage pits are examples of archaeological features

GIS:

Geographic Information Systems (GIS) are computer software that allows layering of various types of data to produce complex maps; useful for predicting site location and for representing the analysis of collected data within sites and across regions.

Historical archaeology:

Primarily that aspect of archaeology which is complementary to history based on the study of written sources. In the South African context it concerns the recovery and interpretation of relics left in the ground in the course of Europe's discovery of South Africa, as well as the movements of the indigenous groups during, and after the "Great Scattering" of Bantu-speaking groups – known as the *mfecane* or *difaqane*.

Impact: A description of the effect of an aspect of the development on a specified component of the biophysical, social or economic environment within a defined time and space.

Iron Age:

Also known as "Farmer Period", the "Iron Age" is an archaeological term used to define a period associated with domesticated livestock and grains, metal working and ceramic manufacture.

Lithic:

Stone tools or waste from stone tool manufacturing found in on archaeological sites.

Management / Management Actions: Actions – including planning and design changes - that enhance benefits associated with a proposed development, or that avoid, mitigate, restore, rehabilitate or compensate for the negative impacts.

Matrix:

The material in which an artefact is situated (sediments such as sand, ashy soil, mud, water, etcetera). The matrix may be of natural origin or human-made.

Megalith:

A large stone, often found in association with others and forming an alignment or monument, such as large stone statues.

Midden:

Refuse that accumulates in a concentrated heap.

Microlith:

A small stone tool, typically knapped of flint or chert, usually about three centimetres long or less.

Monolith:

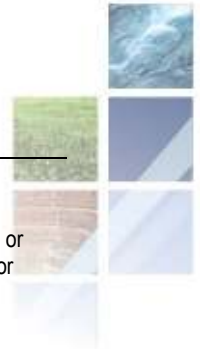
A geological feature such as a large rock, consisting of a single massive stone or rock, or a single piece of rock placed as, or within, a monument or site.

Oral Histories:

The historical narratives, stories and traditions passed from generation to generation by word of mouth.

Phase 1 CRM Assessment:

An Impact Assessment which identifies archaeological and heritage sites, assesses their significance and comments on the impact of a given development on the sites. Recommendations for site mitigation or conservation are also made during this phase.



Phase 2 CRM Study:

In-depth studies which could include major archaeological excavations, detailed site surveys and mapping / plans of sites, including historical / architectural structures and features. Alternatively, the sampling of sites by collecting material, small test pit excavations or auger sampling is required. Mitigation / Rescue involves planning the protection of significant sites or sampling through excavation or collection (in terms of a permit) at sites that may be lost as a result of a given development.

Phase 3 CRM Measure:

A Heritage Site Management Plan (for heritage conservation), is required in rare cases where the site is so important that development will not be allowed and sometimes developers are encouraged to enhance the value of the sites retained on their properties with appropriate interpretive material or displays.

Prehistoric archaeology:

That aspect of archaeology which concerns itself with the development of humans and their culture before the invention of writing. In South Africa, prehistoric archaeology comprises the study of the Early Stone Age, the Middle Stone Age and the greater part of the Later Stone Age and the Iron Age.

Probabilistic Sampling:

A sampling strategy that is not biased by any person's judgment or opinion. Also known as statistical sampling, it includes systematic, random and stratified sampling strategies.

Provenience

Provenience is the three-dimensional (horizontal and vertical) position in which artefacts are found. Fundamental to ascertaining the provenience of an artefact is *association*, the co-occurrence of an artefact with other archaeological remains; and *superposition*, the principle whereby artefacts in lower levels of a matrix were deposited before the artefacts found in the layers above them, and are therefore older.

Random Sampling:

A probabilistic sampling strategy whereby randomly selected sample blocks in an area are surveyed. These are fixed by drawing coordinates of the sample blocks from a table of random numbers.

Relative dating:

The process whereby the relative antiquity of sites and objects are determined by putting them in sequential order but not assigning specific dates.

Remote Sensing:

The small or large-scale acquisition of information of an object or phenomenon, by the use of either recording or real-time sensing device(s) that is not in physical or intimate contact with the object (such as by way of aircraft, spacecraft or satellite). Here, ground-based geophysical methods such as Ground Penetrating Radar and Magnetometry are often used for archaeological imaging.

Rock Art Research:

Rock art can be "decoded" in order to inform about cultural attributes of prehistoric societies, such as dress-code, hunting and food gathering, social behaviour, religious practice, gender issues and political issues.

Scoping Assessment: The process of determining the spatial and temporal boundaries (i.e. extent) and key issues to be addressed in an impact assessment. The main purpose is to focus the impact assessment on a manageable number of important questions on which decision making is expected to focus and to ensure that only key issues and reasonable alternatives are examined. The outcome of the scoping process is a Scoping Report that includes issues raised during the scoping process, appropriate responses and, where required, terms of reference for specialist involvement.

Sensitive:

Often refers to graves and burial sites although not necessarily a heritage place, as well as ideologically significant sites such as ritual / religious places. *Sensitive* may also refer to an entire landscape / area known for its significant heritage remains.

Site (Archaeological):

A distinct spatial clustering of artefacts, features, structures, and organic and environmental remains, as the residue of human activity. These include surface sites, caves and rock shelters, larger open-air sites, sealed sites (deposits) and river deposits. Common functions of archaeological sites include living or habitation sites, kill sites, ceremonial sites, burial sites, trading, quarry, and art sites,



Slag:

The material residue of smelting processes from metalworking.

Stone Age:

An archaeological term used to define a period of stone tool use and manufacture.

Stratigraphy:

This principle examines and describes the observable layers of sediments and the arrangement of strata in deposits

Stratified Sampling:

A probabilistic sampling strategy whereby a study area is divided into appropriate zones – often based on the probable location of archaeological areas, after which each zone is sampled at random.

Systematic Sampling:

A probabilistic sampling strategy whereby a grid of sample blocks is set up over the survey area and each of these blocks is equally spaced and searched.

Tradition:

Artefact types, assemblages of tools, architectural styles, economic practices or art styles that last longer than a phase and even a horizon are describe by the term *tradition*. A common example of this is the early Iron Age tradition of Southern Africa that originated \pm 200 AD and came to an end at about 900 AD.

Trigger: A particular characteristic of either the receiving environment or the proposed project which indicates that there is likely to be an *issue* and/or potentially significant *impact* associated with that proposed development that may require specialist input. Legal requirements of existing and future legislation may also trigger the need for specialist involvement..

Tuyère:

A ceramic blow-tube used in the process of iron smelting / reduction.

LIST OF ABBREVIATIONS

Abbreviation	Description
ASAPA	Association for South African Professional Archaeologists
AIA	Archaeological Impact Assessment
BP	Before Present
BCE	Before Common Era
EIA FP	Early Iron Age Farmer Period (also Early Farmer Period)
EIA	Environmental Impact Assessment
EFPP	Early Farmer Period (also Early Iron Age Farmer Period)
ESA	Earlier Stone Age
GIS	Geographic Information Systems
HIA	Heritage Impact Assessment
K2/Map	K2/Mapungubwe Period
LFP	Later Farmer Period (also Later Iron Age)
LIA FP	Later Iron Age Farmer Period (also Later Farmer Period)
LSA	Later Stone Age
MIA	Middle Iron Age (also Early later Farmer Period)
MRA	Mining Rights Application
MSA	Middle Stone Age
NHRA	National Heritage Resources Act No.25 of 1999, Section 35
SAHRA	South African Heritage Resources Association
YCE	Years before Common Era (Present)

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1 EXECUTIVE SUMMARY

The Lesego Platinum Mine Pty (Ltd) is planning the development of the Lesego Platinum Mine on surface portions of the farms Zaaikloof 480 KS, Spelonk 478 KS, Olifantspoort 479 KS and Stofpoort 481 KS in the Steelpoort Area, Sekukhuneland, Limpopo Province. This report details the results of an Archaeological Impact Assessment (AIA) Study for the proposed further development of infrastructure associated with mining activities in the area. The report includes background information on the area's archaeology, its representation in southern Africa, and the history of the larger area under investigation, survey methodology and results as well as heritage legislation and conservation policies. A copy of the report will be supplied to the South African Heritage Resources Agency (SAHRA) and recommendations contained in this document will be reviewed in order to consider the conservation priority of sites located in the area.

Previous archaeological and historical studies conducted in the Steelpoort area suggest a rich and diverse archaeological landscape. Similarly, a number of areas of archaeological and / or historical potential were located during the Archaeological Impact Assessment, which primarily focused on three areas selected for infrastructure construction for the Lesego Platinum Mine.

Palaeontology:

Since the palaeontological sensitivity of rock units within the study area is generally low the impact significance of the proposed mining activities as far as fossil heritage is concerned, is likely to be small. However, a Palaeontological Impact Assessment is recommended and, should fossil remains such as fossil fish, reptiles or vitrified wood be exposed during construction, these objects should carefully safeguarded and the relevant heritage resources authority (SAHRA) should be notified immediately so that the appropriate action can be taken by a professional palaeontologist.

Stone Age Remains:

Stone Age material dating to all periods of the Stone Age occurs in the study area. MSA occurrences such as those located in Study Area 1 occur in open contexts and their original positions have probably been lost which implies a limited significance for these artefacts. However, ESA and MSA material scatters in Study Area 3 occur in sealed and intact contexts which might provide significant research potential.

MSA scatters in Study Area 1, situated close to the proposed tailings dam facility at **Site SA01** are of medium heritage priority and the impact on the sites by the proposed activity is considered to permanent in duration where in essence, the impact might result the potential damage / loss of the sites. It is recommended that the site be recorded and that site monitoring be done if any construction takes place in the vicinity of the site. **Site SA02**, also in Study Area 1 is of low heritage priority and the site occurs away from the proposed tailings dam facility. It is recommended that any developments in the area be monitored in order to minimise possible impact on the site

The large MSA scatter and additional ESA material along the drainage line in Study Area 3 at **Site SA03** and **Site SA04** is of heritage priority and carries a high significance rating. The sites are situated between approximately 500m and more than 1000m from the proposed mine plant and, as such the impact on the sites by the proposed activity is considered to be none. Since the sites are of major significance, it is recommended that any developments in the area be monitored in order to minimise possible impact on the site. Should any phase of development impact on the sites, it is recommended that a second phase of investigation (Phase 2) be carried

out prior to the commencement of development in this area. This process should minimally include the sampling of the MSA assemblage through archaeological area and Shovel Test Spit (STP) excavations in order to assess the character and extent of the MSA at in the Lesego Mine Project area. It is also recommended that a geologist should be involved during sampling for input on the rock types and origins of the raw materials used during the production of the lithic sequences.

Iron Age / Farmer Period Remains:

A large number of sites dating to the Earlier and Later Iron Age occur - and have been studied in the Steelpoort area. In most cases earlier sites occur on the alluvial soils close to water sources and later sites are placed on mountain slopes where stone for the building of terraces and enclosures, was freely available. The Iron Age occurrences documented in the Lesego Mine Project Area are therefore not entirely unique, where the possible earlier Iron Age as well as the later Iron Age occupation sites are of significance.

Iron Age walling and terracing in Study Area 1 at **Site IA01** is of medium heritage priority but the site is situated away from the proposed tailings dam facility and it is recommended that any developments in the area be monitored in order to minimise possible impact on the site.

Earlier and Later Iron Age sites in Study Area 3 at **Site IA02** and **Site IA03** are of high and medium heritage priority respectively as the sites might yield an understanding of the development and spread of the Iron Age Farmer Period in the larger landscape and in the Steelpoort. The sites are situated some distance north of the proposed mine plant area and as such, the impact on the sites by the proposed activity is considered to none. However, since the sites are of significance it is recommended that any developments in the area be monitored in order to minimise possible impact on the sites. Limited Phase 2 archaeological investigations should be done on these sites if these areas are to be impacted on by the proposed Lesego mining development. Such mitigation measures should minimally sample cultural and other remains that will adequately allow the temporal, cultural and spatial classification of the sites, by means of site recording and mapping, surface and sub-surface sampling (limited STP [Shovel Test Spit] excavations) and local social consultation by a suitably qualified archaeological. The Specialist should obtain the necessary permits from the relevant heritage resources authority (SAHRA) for the in-situ analysis, possible collection and photography of the artefacts during the study. As one of the sites (Site IA05) has already been adversely affected by exploration activities, it is strongly recommended that access to, and on these sites be regulated until further archaeological investigations and possible conservation measures are put into action.

Historical /Recent Remains

Sites dating to the Historical / Colonial Period in the Steelpoort can typically be related to early farming, mining and missionary activities. However, later sites occurring in the Lesego Mine Project Area, such as the numerous ruined farmsteads scattered across the landscape, are of recent age and their significance deemed low.

A large number of poorly preserved brick, cement and stone foundation structures, stone wall enclosures and middens were recorded outside of mine infrastructure planning areas (**Site HP01, Site HP02, Site HP03, Site HP04, Site HP05**). These sites are generally of medium-low significance due to the poor preservation of the sites but the structures might yield an understanding of the Historical and Recent time periods, as well as historical architectural and settlement developments in the larger landscape and in the Steelpoort. Since the sites are situated some distance from the proposed Lesego mine infrastructure the impact on the sites by the proposed

activity is considered to be none but it is recommended that any developments in the area be monitored in order to minimise possible impact on the sites. In addition, a number of structures similar to those described above occur within the proposed development margins of the Lesego mine (**Site HP06**). These sites are also of medium-low significance due to their poor preservation and impact on the sites is considered to be peripheral and of permanent duration where in essence, the impact will result the potential damage / loss of the sites. It is recommended that the sites be documented and a destruction permit be acquired from the relevant resources authority if these structures were to be impacted by development activities. In addition, local sentiments and community relationships to these settlements should be observed and considered.

Graves

Graves are generally protected and of high significance. This applies to all cemeteries and burial places identified in the Lesego Mine Project Area. In addition, one should also consider that burial places functions as place of “Living Heritage”. Here, “Living Heritage” can broadly refer to a place of cultural heritage and sacred nature; with cultural attributions that are not generally physically manifested. This said, due cognisance should be taken of the value and intrinsic symbolic power of cemeteries as site of “Living Heritage” in the Lesego area.

Small cemeteries and graves in the study area outside of proposed mine development zones (**Site BP01, Site BP02, Site BP03, Site BP09**) are of heritage priority and carries high significance ratings. However, since the sites are away from the proposed mine, the impact by the proposed activity is considered to be none. Since the sites are of significance, any possible direct impact on the heritage resources should be limited to minimum by the implementation of monitoring measures for the sites and mine development. A number of burials and cemeteries occur within areas demarcated for development at Lesego (**Site BP04, Site BP05, Site BP06, Site BP07, Site BP08, Site BP10, Site BP11, Site BP12**). As with other burials, the sites are of heritage priority and carry a high significance rating. As such, the impact on the sites by the proposed activity is considered to be of permanent duration where in essence, the impact will result the potential damage / loss of the burials. Since the sites are of major significance, the direct impact on the heritage resource is expected to be very high and it is essential that the threshold be limited to a low impact by the implementation of mitigation measures for the sites. In principle, graves or any possible burials should be excluded from mitigation measures as the legal, moral and ethical aspects of the disturbance of graves are extremely complex. Also, graves older than 60 years, or unmarked burial places are protected under the NHRA (Act 25 of 1999). The intrinsic heritage and social value of the cemeteries and burial places in the Lesego Project Area requires special management attention and a conservation buffer zone of at least 100m around all graves and cemeteries should be maintained at all times. In addition, it is recommended that all cemeteries and burial places be properly fenced and access control be implemented. However, should any of the cemeteries or graves (or the required 100m buffer zone around them) be impacted in any way by the planned Lesego Mining infrastructure, full grave relocations are recommended for graves to be impacted. Such measure should be undertaken by a qualified archaeologist, and in accordance with the Human Tissue Act (Act 65 of 1983 as amended), the Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925), the National Heritage Resources Act (Act no. 25 of 1999) and any local and regional provisions, laws and by-laws pertaining to the cemetery. A full social consultation process should occur in conjunction with the mitigation of any burial place or cemetery.

It is highly likely that further burials will occur in areas demarcated for development and it is recommended that a dedicated field survey with the assistance of relatives and affected families be done in order to document all graves in the Lesego Project Area.

It is essential that cognisance be taken of the larger archaeological landscape of the area in order to avoid the destruction of previously undetected heritage sites. Here, care should be taken around rock faces and outcrops in the larger landscape, as rock art is known to occur on these outcrops. Water sources such as drainage lines and rivers should also be regarded as potentially sensitive in terms of possible Stone Age deposits. The possible existence of Historical Period resources deriving from the area's more recent history should also be considered. Graves and cemeteries generally occur within settlements, often around homesteads and utmost care should be taken not to disturb these high risk heritage resources as they involve complex intrinsic social and ritual attributes within the community.

Generally, a careful watching brief monitoring process is recommended for all stages of the project, specifically around heritage sensitive areas i.e. MSA scatters, historical period structures and graves. Should any subsurface palaeontological, archaeological or historical material be exposed during construction activities, all activities should be suspended and the archaeological specialist should be notified immediately

This report details the methodology, limitations and recommendations relevant to these heritage areas, as well as areas of proposed development. It should be noted that mitigation measures are valid for the duration of the development process, and mitigation measures might have to be implemented on additional features of heritage importance not detected during this Phase 1 assessment (e.g. uncovered during the construction process).



2 BACKGROUND

2.1 Scope and Motivation

AGES was appointed by Lesego Platinum Mine Pty (Ltd) for an Archaeological Impact Assessment (AIA) Study of demarcated areas the Sekhukhune Area, Limpopo Province where the Lesego Platinum Mine Project is planned. The proposed development tentatively comprises infrastructure such as a processing plant, access and haul roads a tailings storage facility. The rationale of the AIA study was to determine the presence of heritage resources such as archaeological and historical sites and features, graves and places of religious and cultural significance; to consider the impact of the proposed project on such heritage resources, and to submit appropriate recommendations with regard to the cultural resources management measures that may be required at affected sites / features.

2.2 Project Direction

AGES's expertise ensures that all projects be conducted to the highest international ethical and professional standards. As archaeological specialist for AGES, Mr Neels Kruger acted as field director for the project; responsible for the assimilation of all information, the compilation of the final AIA report and recommendations in terms of heritage resources on the demarcated project areas. Mr Kruger is an accredited archaeologist and Culture Resources Management (CRM) practitioner with the Association of South African Professional Archaeologists (ASAPA), a member of the Society for Africanist Archaeologists (SAFA) and the Pan African Archaeological Association (PAA) as well as a Master's Degree candidate in archaeology at the University of Pretoria.

2.3 Project Description

The study area includes the farms Koppieskraal 475KS, Spelonk 478 KS, Olifantspoort 479 KS, Dal Josaphat 461 KS, Eerste Regt 502 KS and Government Ground 503 KS while a tailings dam is proposed to the west of the site on the farms Zaaikloof 480 KS and Stofpoort 481 KS (Figures 1 and 2).

The layout plan will include the following:

- Processing plant and associated infrastructure
- Tailings dam
- Waste rock dumps
- Proposed mining and Ventilation shaft
- Access roads
- Topsoil dumps

2.4 Terms of Reference

Heritage specialist input in Environmental Impact Assessment (EIA) processes is essential to ensure that through the management of change, development conserves our heritage. Heritage specialist input in EIA processes can play a positive role in the development process by enriching an understanding of the past and its contribution to the present. It is also a legal requirement for certain categories of development defined in the relevant heritage legislation, which may have an impact on heritage resources.

Thus, EIAs should, in all cases, include the assessment of Heritage Resources. The heritage component of the

EIA is provided for in the **National Environmental Management Act, (Act 107 of 1998)** and endorsed by section 38 of the **National Heritage Resources Act (NHRA - Act 25 of 1999)**. In addition, the NHRA protects all structures and features older than 60 years (see Section 34), archaeological sites and material (see Section 35) and graves as well as burial sites (see Section 36). The objective of this legislation is to enable and to facilitate developers to employ measures to limit the potentially negative effects that the development could have on heritage resources.

Based hereon, this project functioned according to the following **terms of reference** for heritage specialist input:

- *Provide a detailed description of all archaeological artefacts, structures (including graves) and settlements which may be affected, if any.*
- *Assess the nature and degree of significance of such resources within the area.*
- *Establish heritage informants/constraints to guide the development process through*
- *establishing thresholds of impact significance;*
- *Assess any possible impact on the archaeological and historical remains within the area emanating from the proposed development activities.*
- *Propose possible heritage management measures provided that such action is necessitated by the development.*
- *Liaise and consult with the South African Heritage Resources Agency (SAHRA).*

2.5 CRM: Legislation, Conservation and Heritage Management

The broad generic term *Cultural Heritage Resources* refers to any physical and spiritual property associated with past and present human use or occupation of the environment, cultural activities and history. The term includes sites, structures, places, natural features and material of palaeontological, archaeological, historical, aesthetic, scientific, architectural, religious, symbolic or traditional importance to specific individuals or groups, traditional systems of cultural practice, belief or social interaction.

2.5.1 Legislation regarding archaeology and heritage sites

The South African Heritage Resources Agency (SAHRA) and their provincial offices aim to conserve and control the management, research, alteration and destruction of cultural resources of South Africa. It is therefore vitally important to adhere to heritage resource legislation at all times.

- *National Heritage Resources Act No 25 of 1999, section 35*

According to the National Heritage Resources Act of 1999 a historical site is “any identifiable building or part thereof, marker, milestone, gravestone, landmark or tell older than 60 years.” This clause is commonly known as the “60-years clause”. Buildings are amongst the most enduring features of human occupation, and this definition therefore includes all buildings older than 60 years, modern architecture as well as ruins, fortifications and Iron Age settlements. “Tell” refers to the evidence of human existence which is no longer above ground level, such as building foundations and buried remains of settlements (including artefacts).

The Act identifies heritage objects as:

- objects recovered from the soil or waters of South Africa including archaeological and palaeontological objects, meteorites and rare geological specimens
- visual art objects
- military objects
- numismatic objects



- objects of cultural and historical significance
- objects to which oral traditions are attached and which are associated with living heritage
- objects of scientific or technological interest
- any other prescribed category

With regards to activities and work on archaeological and heritage sites this Act states that:

“No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit by the relevant provincial heritage resources authority.” (34. [1] 1999:58)

and

“No person may, without a permit issued by the responsible heritage resources authority-

- (a) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;*
- (b) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;*
- (c) trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or*
- (d) bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites. (35. [4] 1999:58).”*

And:

“No person may, without a permit issued by SAHRA or a provincial heritage resources agency-

- (a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;*
- (b) 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;*
- (c) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) and excavation equipment, or any equipment which assists in the detection or recovery of metals (36. [3] 1999:60).”*

- *Human Tissue Act of 1983 and Ordinance on the Removal of Graves and Dead Bodies of 1925*

Graves 60 years or older are heritage resources and fall under the jurisdiction of both the National Heritage Resources Act and the Human Tissues Act of 1983. However, graves younger than 60 years are specifically protected by the Human Tissues Act (Act 65 of 1983) and the Ordinance on the Removal of Graves and Dead Bodies (Ordinance 7 of 1925) as well as any local and regional provisions, laws and by-laws. Such burial places

also fall under the jurisdiction of the National Department of Health and the Provincial Health Departments. Approval for the exhumation and re-burial must be obtained from the relevant Provincial MEC as well as the relevant Local Authorities.

2.5.2 Background to HIA and AIA Studies

South Africa's unique and non-renewable archaeological and palaeontological heritage sites are 'Generally' protected in terms of the National Heritage Resources Act (Act No 25 of 1999, section 35) and may not be disturbed at all without a permit from the relevant heritage resources authority. Heritage sites are frequently threatened by development projects and both the environmental and heritage legislation require impact assessments (HIAs & AIAs) that identify all heritage resources in areas to be developed. Particularly, these assessments are required to make recommendations for protection or mitigation of the impact of the sites. HIAs and AIAs should be done by qualified professionals with adequate knowledge to (a) identify all heritage resources including archaeological and palaeontological sites that might occur in areas of developed and (b) make recommendations for protection or mitigation of the impact on the sites.

The National Heritage Resources Act (Act No. 25 of 1999, section 38) provides guidelines for Cultural Resources Management and prospective developments:

"38. (1) Subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as:

- (a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;*
- (b) the construction of a bridge or similar structure exceeding 50 m in length;*
- (c) any development or other activity which will change the character of a site:*
 - (i) exceeding 5 000 m² in extent; or*
 - (ii) involving three or more existing erven or subdivisions thereof; or*
 - (iii) involving three or more erven or divisions thereof which have been consolidated within the past five years; or*
 - (iv) the costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;*
- (d) the re-zoning of a site exceeding 10 000 m² in extent; or*
- (e) any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority,*

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

And:

"The responsible heritage resources authority must specify the information to be provided in a report required in terms of subsection (2)(a): Provided that the following must be included:

- (a) The identification and mapping of all heritage resources in the area affected;*
- (b) an assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6(2) or prescribed under section 7;*

- (c) *an assessment of the impact of the development on such heritage resources;*
- (d) *an evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;*
- (e) *the results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources;*
- (f) *if heritage resources will be adversely affected by the proposed development, the consideration of alternatives; and*
- (g) *plans for mitigation of any adverse effects during and after the completion of the proposed development (38. [3] 1999:64)."*

Consequently, section 35 of the Act requires Heritage Impact Assessments (HIAs) or Archaeological Impact Assessments (AIAs) to be done for such developments in order for all heritage resources, that is, all places or objects of aesthetics, architectural, historic, scientific, social, spiritual, linguistic or technological value or significance to be protected. Thus any assessment should make provision for the protection of all these heritage components, including archaeology, shipwrecks, battlefields, graves, and structures older than 60 years, living heritage, historical settlements, landscapes, geological sites, palaeontological sites and objects.

3 REGIONAL CONTEXT

3.1 Area Location

The planned Lesego Platinum Mine is situated approximately 300 km northeast of Johannesburg in the Sekhukhune Area in the Limpopo Province. The site is situated between the R518 past Lebowaikgomo and the R37 road to Burgersfort. Numerous informal settlements can be found in surrounding areas.

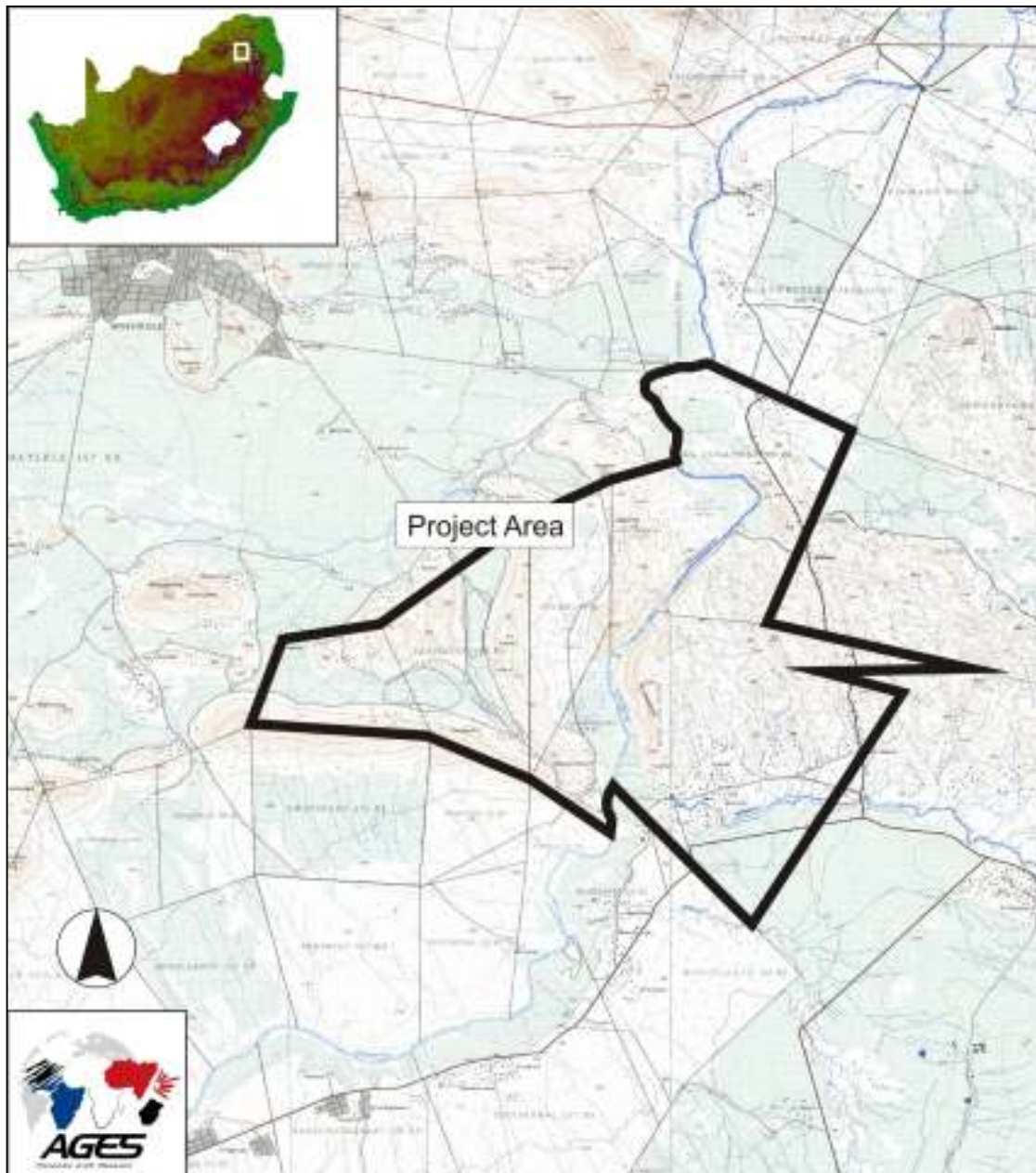


Figure 3-1: 1:50 00 Map representation of the Lesego Mine Project Area (2429BC).

3.2 Area Description: Receiving Environment

The regional topographical setting of the Lesego study area can be largely classified as low mountainous terrain throughout most parts of the central, eastern and western sections of the study area often forming deep valleys

and a gorge where the Olifants River cuts through the mountainous area. The Lesego properties are situated along the eastern slopes of a low ridge known as the Phosiri dome. This eastern area represents the main part of the Lesego properties and is dominated by rugged hills with well-defined ridges and joint pattern controlled valleys and troughs. The properties straddle the northerly flowing Olifants River which appears to have exploited the natural joint pattern and created a deeply incised valley. With the exception of occasional small anthills and erosion along the drainage channel of the non-perennial streams bisecting the site, the plains of the study area does not exhibit significant topographical features. Vegetation on the areas is generally classified as Bushveld and grassland cover.



Figure 3-2: General surroundings of the Lesego Mine Project Area, looking east.

3.3 Site Description

The planned Lesego Platinum Mine Project covers portions the farms Zaaikloof 480 KS, Spelonk 478 KS, Olifantspoort 479 KS, Dal Josaphat 461 KS, Koppieskraal 475 KS, Eerste Regt 502 KS, Stofpoort 481 KS and Government Ground 503 KS. The Olifants River transects the site from south to north. In places, sections of the landscape have been disturbed as a result of overgrazing and erosion gullies and dongas occur in the surroundings. However, extensive surface disturbances across the larger landscape do not occur and, except for degradation as a result of natural agents such as erosion and animal burrowing, subsurface portions of the majority of areas seem to be intact. The total extent of the Lesego Property exceeds 3000ha. However, smaller areas have been tentatively identified where mining infrastructure is planned. The Archaeological Impact Assessment focused around these areas (see Figure 3-3):

- **Tailings Dam (Alternative Site):** Study Area 1
- **Tailings Dam (Preferred Site):** Study Area 2
- **Mine Production Plant and Road Upgrade Areas:** Study Area 3

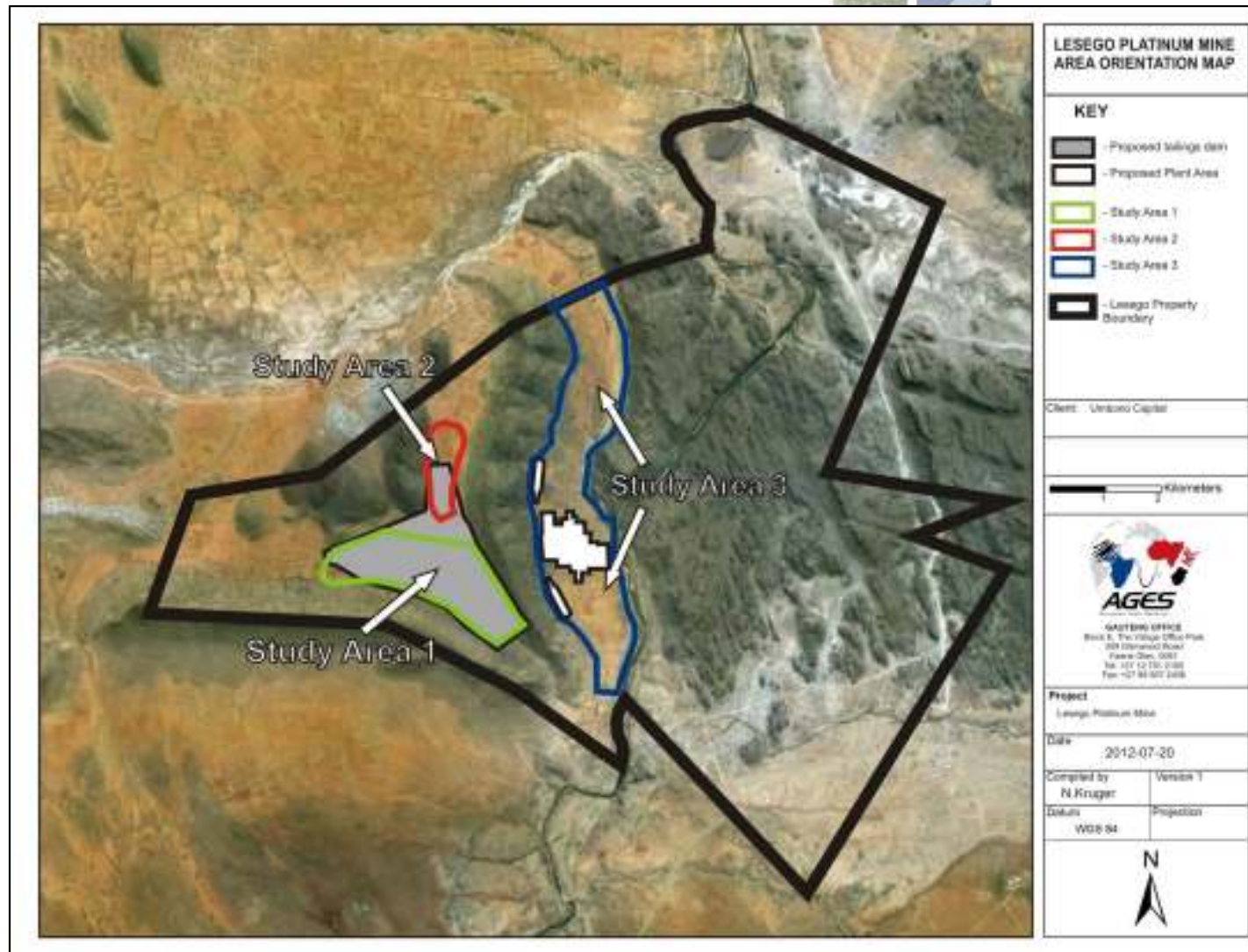


Figure 3-3: Regional setting of the Lesego Platinum Mine Project Area, indicating proposed infrastructure development and associated Study Areas discussed in the text (See detail in Figure 3-4).

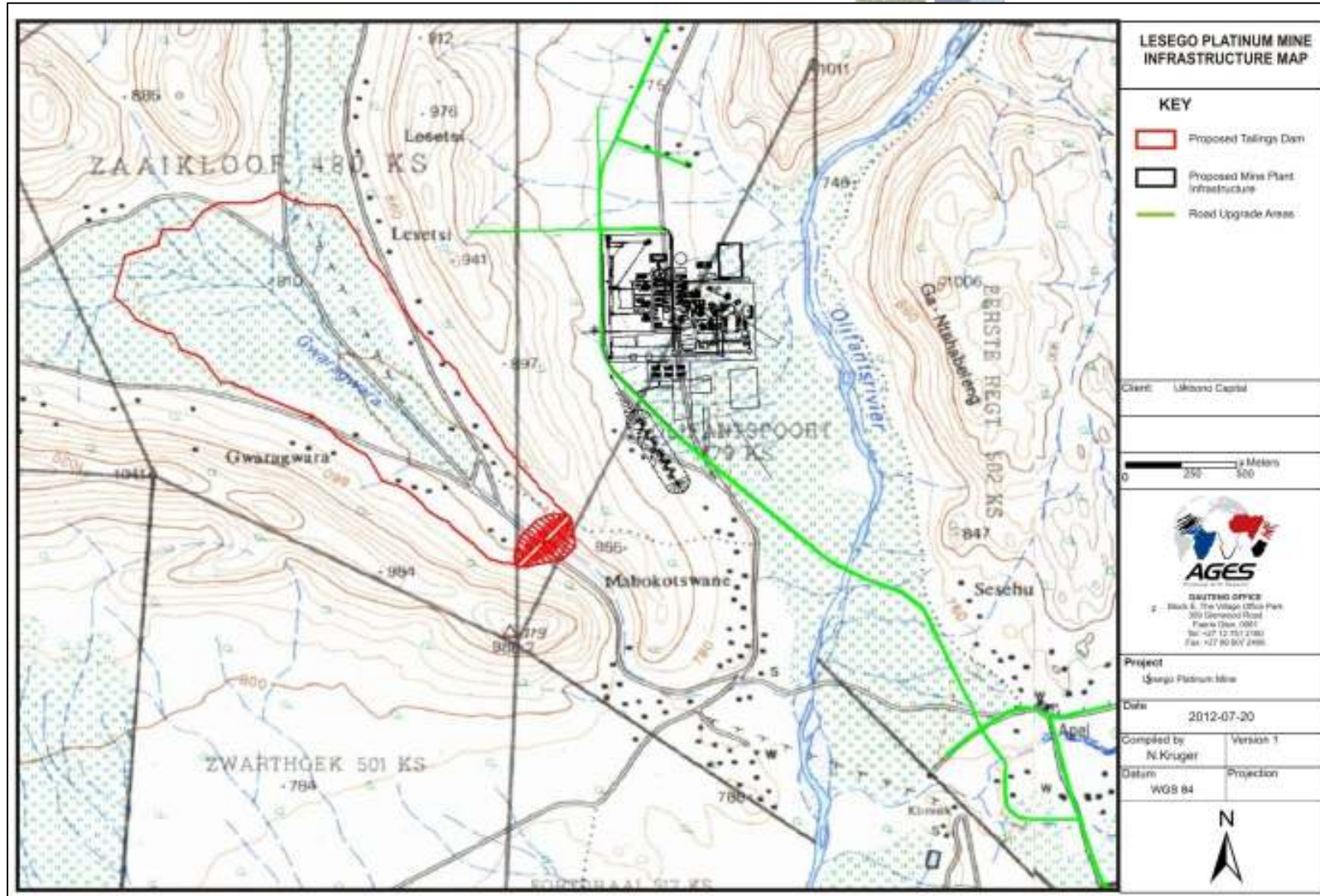


Figure 3-4: Map of Lesego Platinum Mine Project Area detaining proposed infrastructure development discussed in the text



4 METHOD OF ENQUIRY

4.1 Sources of Information

4.1.1 Desktop Study

A desktop study was prepared in order to contextualize the proposed project within a larger historical milieu. The study focused on relevant previous studies, archaeological and archival sources, aerial photographs, historical maps and local histories, all pertaining to the Steelpoort area and the larger landscape of this section of the Limpopo Province.

4.1.2 Aerial Representations and Survey

Aerial photography is often employed to locate and study archaeological sites, particularly where larger scale area surveys are performed. This method was applied to aid the large scale pedestrian and automotive survey of the Lesego properties, where contour lines of elevations, depressions, variation in vegetation, soil marks and landmarks were examined. Specific attention was given to shadow sites (shadows of walls or earthworks which are visible early or late in the day), crop mark sites (crop mark sites are visible because disturbances beneath crops cause variations in their height, vigour and type) and soil marks (e.g. differently coloured or textured soil (soil marks) might indicate ploughed-out burial mounds). Attention was also given to moisture differences, as prolonged dampening of soil as a result of precipitation frequently occurs over walls or embankments. By superimposing high frequency aerial photographs with images generated with Google Earth, potential sensitive areas were subsequently identified, geo-referenced and transferred to a handheld GPS device. In addition, based on existing knowledge of the local heritage landscape, the farms were divided into smaller survey zones centred around areas of higher site catchment probability (where human activity was likely to occur in prehistoric and historic times e.g. around water sources, near soils fit for agriculture, on ridges). These survey zones were then transferred to a handheld GPS device. These areas served as referenced points from where further vehicular and pedestrian surveys were carried out.

4.1.3 Field Survey

Archaeological survey implies the systematic procedure of the identification of archaeological sites. An archaeological survey of areas to be impacted by the proposed Lesego Mine was conducted in July 2011, April 2012 and May 2013. The process encompassed a systematic field survey in accordance with standard archaeological practise by which heritage resources are observed and documented. In order to sample surface areas systematically and to ensure a high probability of site recording the farms were systematically surveyed, GPS reference points were visited and random spot checks were made (see detail in previous section). Using a Garmin E-trex Legend GPS objects and structures of archaeological / heritage value were recorded and photographed with a Canon 450D Digital camera. Real time aerial orientation, by means of a mobile Google Earth application was also employed to investigate possible disturbed areas during the survey.

As most archaeological material occur in single or multiple stratified layers beneath the soil surface, special attention was given to disturbances, both man-made such as roads and clearings, as well as those made by natural agents such as burrowing animals and erosion.

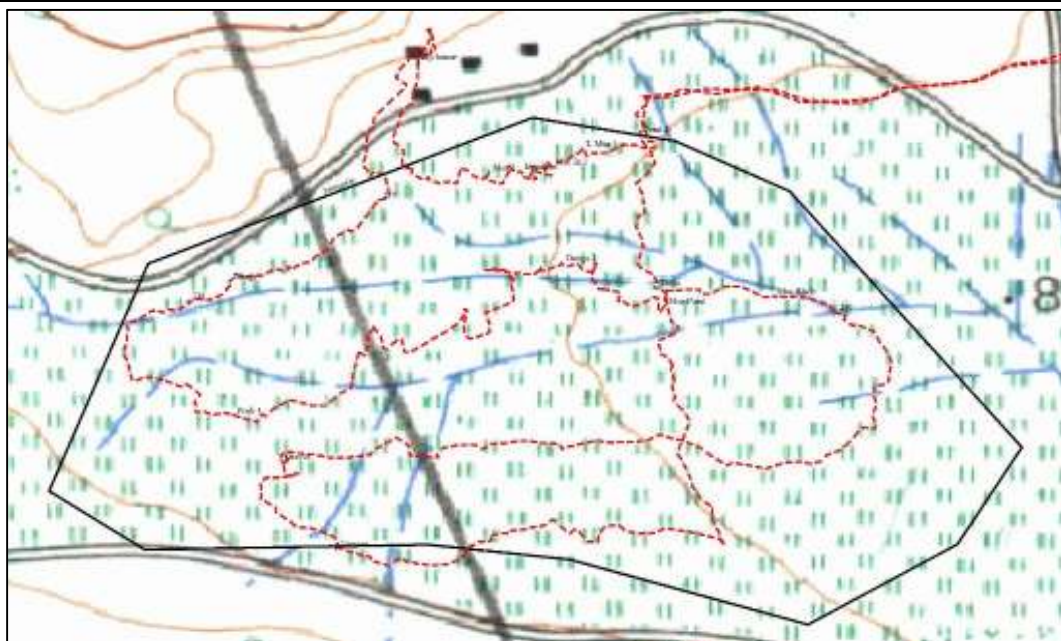


Figure 4-1: GPS Track log map illustrating transect survey application in Study Area 1.

4.1.4 General Public Liaison

In single cases, consultation with local residents provided information on the general history of the area, possible locations of heritage resources and brief commentaries on the recent history of the area.

4.2 Limitations

4.2.1 Access

No access control applies to any of the farms relevant to this assessment but the areas demarcated for development were hard to reach due to their remote locations. On site, smaller farm service roads provided access to all Study Areas. In a few cases, access across the Olifants River hampered movement within study areas.

4.2.2 Visibility

The surrounding vegetation in this portion of the Steelpoort Valley is mostly comprised out of mixed grasslands, scattered trees and bushes, with the occurrence of pioneering species in places. The general visibility at the time of the AIA surveys (July 2011 and April 2012) was moderate to high in Survey Area 1 and 2, and Moderate in Survey Area 3. (see Figures 4-2 to 4-6). In single cases during the survey sub-surface inspection was possible. Where applied, this revealed no archaeological deposits.



Figure 4-2: View of the general surroundings at Study Area 1, looking west.



Figure 4-3: View of the general surroundings at Study Area 2, looking east.



Figure 4-4: View of the general surroundings in the southern portion of Study Area 3, looking south.



Figure 4-5: View of the general surroundings in the northern portion of Study Area 3, looking west



Figure 4-6: View of the Olifants River to the east of Study Area 3.

4.2.3 Limitations and Constraints

Due to the large extent of the surface area subject to the AIA study, the pedestrian and vehicular site survey primarily focused around areas tentatively identified as sensitive and of high heritage probability (i.e. those noted during the aerial survey) as well as areas of high human settlement catchment. However, the following constraints were encountered:

- **Survey Time and Extent:** Generally, time restrictions in terms of the site survey proved to be a constraint due to the vast surface extent of the larger Lesego Property. Therefore, pedestrian site surveys focused around areas tentatively identified as sensitive (i.e. along drainage lines and those noted during the aerial survey) as well as zones to be directly impacted by future infrastructure (sites identified for tailings dams & the mine plant).
- **Visibility:** Visibility proved to be a constraint in more pristine and mountainous areas where documented sites proved to be densely overgrown and obstructed by surface vegetation.

Thus, even though it might be assumed that survey findings are representative of the heritage landscape of the Lesego Project area, it should be stated that the possibility exists that individual sites could be missed due to the localised nature of some heritage remains as well as the possible presence of sub-surface archaeology. Therefore, maintaining due cognisance of the integrity and accuracy of the archaeological survey, it should be stated that the heritage resources identified during the study do not necessarily represent *all* the heritage resources present on the property. The subterranean nature of some archaeological sites, dense vegetation cover and visibility constraints sometimes distort heritage representations and any additional heritage resources located during consequent development phases must be reported to the Heritage Resources Authority or an archaeological specialist.

5 RESULTS: ARCHAEOLOGICAL SURVEY

5.1 The Stone Age

During the archaeological survey, a number of minor and major Stone Age Scatters were identified – predominantly along drainage lines in Study Areas (Refer to Figure 5-33 as well as & Section 7.3).

STUDY AREA 1

- Site SA01 (S24°23'26.33" E29°41'57.61"): MSA lithic scatters.

A number of lithics dating to the Middle Stone Age were located along erosion gullies following a drainage line in Study Area 1. These artefacts include MSA scrapers as well as flaked cores and flakes. The artefacts were manufactured from, amongst others, banded iron stone and fine-grained dolerite. The lithics seem to be largely surface occurrences and mixing of artefacts caused by the erosion of the drainage lines probably greatly compromised the context of artefacts.



Figure 5-1: MSA lithics encountered in Study Area 1.



Figure 5-2: MSA cores (left) and flakes (right) encountered in Study Area 1.

STUDY AREA 2

- Site SA02 (S24°23'07.89" E29°42'33.85"): Minor MSA lithic occurrence.

A few debris flakes probably dating to the MSA were observed on the surface along a minor drainage line in

Study Area 2. These occurrences are isolated and of low significance.

STUDY AREA 3

- **Site SA03 (S24°22'30.12" E29°43'57.37") ESA lithic occurrence.**

A number of Earlier Stone Age stone tools were observed suspended *in situ* in the calcrete bedrock of a major drainage line in Study Area 3. At least 2 Acheullian hand axes were recorded at this site. These occurrences are significant as their primary context seems to have been largely preserved by the calcrete bedrock.



Figure 5-3: Erosion gully containing ESA and MSA material in Study Area 3.

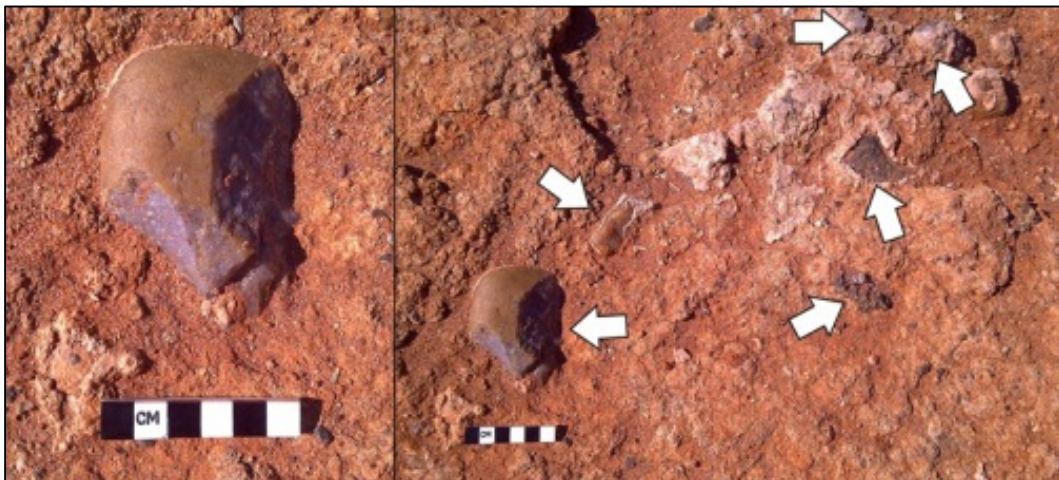


Figure 5-4: ESA material embedded in calcrete bedrock in Study Area 3 (Hand axe, left).

- **Site SA04 (Northern periphery: S24°21'27.02" E29°44'08.78" Southern periphery: S24°23'08.45" E29°44'00.23") Major MSA lithic scatter.**

A large lithic scatter dating to the Middle Stone Age occurs across the entire north-south drainage line in Study Area 3. Artefacts observed in this area include both residue and debris, and formal MSA tools. The artefacts, which include scrapers, points, blades, prepared cores and residue flakes, occur widely in the erosion gullies where their position on the calcrete layer, found in the area, were exposed. The artefacts were manufactured from banded ironstone, fine-grained dolerite and Cryptocrystalline Silicas (CCS) including quartzes, chalcedony, agates and mudstones.



Figure 5-5: Drainage line and erosion gullies containing high densities of MSA material in Study Area 3.



Figure 5-6: MSA lithics from Survey Area 3.



Figure 5-7: MSA lithics from Survey Area 3 and Cryptocrystalline Silicas (CCS).



Figure 5-8: MSA side scraper, displaying secondary flaking along worked edge.



Figure 5-9: MSA flakes tools on banded ironstone and dorerite.

- Possible other Stone Age Sites

It is highly likely that Earlier, Middle and possibly Later Stone Age scatters will occur in the area, specifically along drainage lines and along coastal zones.

5.2 The Iron Age (Farmer Period)

(Refer to Figure 5-33 as well as & Section 7.3).

STUDY AREA 1

- **Site IA01 (S24°23'44.02" E29°41'43.59"):** Possible Iron Age occupation site.

A series of stone terraces were documented on the southern boundary of Study Area 1. The soil on the area also displays an ashy composition and *Euphorbia candelabrum* (Naboom) appear, which is generally indicative of surface disturbances due to past human activity. No temporal markers for the site were located but within a larger historical context, the site was possibly occupied by Iron Age farmers in the last 500 years.



Figure 5-10: Possible Iron Age occupation site in Study Area 1.

STUDY AREA 3

- **Site IA02 (S24°21'55.44" E29°43'44.66"):** Possible Earlier Iron Age occupation site.

A few Iron Age artefacts, including decorated and undecorated ceramics, grindstones and house remains were documented in the north-western section of Study Area 3. The house remains seem to have been burned and it occurs *in situ* where it has been exposed on the surface. Even though a temporal context for the site cannot be ascertained from decorations on ceramics, the absence of stone walling and general preservation of the site possibly suggest Earlier Iron Age farmer occupation of the site.



Figure 5-11: Ceramics from Iron Age site in Study Area 3



Figure 5-12: House remains (left), upper grindstone (centre) and ceramics from Iron Age site in Study Area 3.

- **Site IA03 (S24°22'04.92" E29°43'42.03") Possible Iron Age occupation site.**

A small Iron Age occupation site was documented close to Site IA02 in Study Area 2. A large deposit of vitrified cattle dung as well as a small circular stone structure was noted. Even though the site seems not to be rich in material culture, an iron hoe and large shallow lower grindstones were observed at the site. Grindstones are sometimes reliable indicators of cultivated crops and it can, indirectly indicate a relative temporality for the site. Accordingly, larger grinding circumference grindstones – such as those occurring on the site - typically associated with grinding harder materials such as maize occur on this site. This is significant in terms of site occupation date, as it is commonly accepted that maize were only introduced to southern Africa after the 16th century AD and these larger stones the usually occur on later Iron Age sites.



Figure 5-13: Iron hoe from Iron Age site in Survey Area 3.



Figure 5-14: Circular stone enclosure from Iron Age site in Survey Area 3.

- Site IA04 (S24°22'43.32" E29°43'57.89") Iron Age occupation site.
- Site IA05 (S24°23'04.24" E29°44'00.41") Iron Age occupation site.

Two large Iron Age sites were located on a ridge directly west of the Olifants River. The sites generally occur in the same area and display similar artefact signatures which suggest that they might be spatially and / or culturally related. Upper and lower grindstones, large middens, house remains, granary stand structures, decorated and undecorated ceramics and faunal remains occur on the sites. A single decorated potsherd generally displays

similarities with the later Iron Age Moloko Ceramic tradition which places occupation of the site within the last 500 years.

Unfortunately, large section of Site IA05 to the south, have been destroyed where mining exploration activities have cleared areas surrounding the Olifants River and the integrity of the site has been greatly compromised.



Figure 5-15: Large Iron Age site in Study Area 3.



Figure 5-16: Decorated ceramic (left), lower grindstone (centre) and granary stand structure (right) from Iron Age site in Study Area 3.



Figure 5-17: Iron Age site in Study Area 3, indicating extent of mining exploration disturbance of the site.

5.3 Historical / Colonial Period and recent times

Numerous historical and recent farmsteads occur in all Study Areas (Refer to Figure 5-33 as well as & Section 7.3):

STUDY AREA 1

- Site HP01 (S24°23'13.90" E29°41'48.70") Ruined farmstead, midden and stone stock enclosure.
- Site HP06 (S24°23'25.02" E29°42'50.04") Ruined farmsteads, middens and stone enclosures.

STUDY AREA 2

- Site HP02 (S24°22'57.79" E29°42'42.55"): Series of ruined farmsteads and middens.

STUDY AREA 3

- Site HP03 (S24°22'39.72" E29°43'28.40"): Series of ruined farmsteads, middens and stock enclosures.

STUDY AREA 3

- Site HP04 (S24°21'44.69" E29°44'18.03"): Series of ruined farmsteads, middens and stock enclosures.

STUDY AREA 3

- Site HP05 (S24°24'4.70" E29°43'36.70"): Ruined farmsteads, middens and stock enclosures.

The ruined remains farm houses, large middens and stone stock enclosures occur widely in all Study Areas. The houses, generally built with clay bricks or stone in square or circular shapes, are probably of recent age, as many of the settlements are indicated as existing homesteads on 1:50 000 maps of the area. In addition, material in middens such as glass, metal, enamel, plastic and wood indicates a more recent age for the structures. Interestingly enough, a large amount of grindstones occur within the context of these homesteads, which indicates a continuation of Iron Age farming technologies into present-day agricultural activities.



Figure 5-18: Square stone enclosure at recent farmstead.



Figure 5-19: Ruined remains of recently occupied farmstead.



Figure 5-20: Shallow lower grindstones from recently occupied farmsteads across all Study areas.



Figure 5-21: Material culture from recently occupied farmstead in Study Area 3: metal, glass and plastic.



Figure 5-22: Upper grindstones from recently occupied farmsteads across all Study areas.

- Possible other Historical / Colonial Period Remains

It highly likely that further historical period remains will be present in areas surrounding the Lesego infrastructure footprints.

5.4 Graves

At least 12 recent burial places and possible Iron Age / Historical graves were located in the Study Areas at Lesego. A large number of these sites occur within the area demarcated for the tailings dam facility (TDF). The burial places hold various numbers of graves, a number of which are older than 60 years or unmarked. In many instances, burial locations in this area follow a general (and fairly common) pattern where graves occur around

historical house structures and homestead complexes (Refer to Figure 5-33 as well as & Section 7.3).

STUDY AREA 1

During an assessment of the larger proposed tailings dam facility area and surroundings at least 26 graves were identified.

- **Site BP01 (S24°23'38.58" E29°41'40.19"): Possible unmarked graves.**

A number of elongated stone heaps were found in Study Area 1. At this stage it is impossible to identify the nature and function of the structures but they do resemble later Farmer Period / unmarked Historical Period graves.



Figure 5-23: Stone heaps, possibly unmarked graves in Study Area 1.

- **Site BP05 (S24°24'5.44" E29°42'49.26") Single Marked Grave**

A single grave with marble grave dressing and iron fence was recorded towards a south-eastern section of the proposed TDF. The site consists of a grave which is demarcated by a recently erected inscribed granite headstone. The following inscription was recorded:

*Mpahlele, Ramadimetje Kosheng
Robala Ka Khutso Boledi*



Figure 5-24: Single grave at Site BP05.

- **Site BP06 (24°24'6.04"S 29°42'48.65"E): 6 Marked and Unmarked Graves**

A small cemetery was recorded in the proposed TDF area towards the south. The site consists of 6 graves of which 3 have marble grave dressings which are in dilapidated state. The tombstones were erected by Tombstone World. The remaining graves are indicated by stone piles. The following inscriptions were recorded:

Ntsoane, Jack Kalakatane Ntsoane
16-06-1920 - 24-04-1975
Rest in Peace

Mathabathe William
1923-05-30 - 1984-06-02
Robala Ka Khutso Ngoato a Phakana le Mologadi Modisi Yo Bolo ke Morena

Ntsoane, Raphahale Mologadi
1897-11-01 - 1967-02-17
Rest in Peace



Figure 5-25: Detail of tombstones on graves at Site BP06.

- **Site BP07 (S24°24'5.76"S E29°42'50.38"): 3 Marked and Unmarked Graves**

Another small cemetery was recorded in the proposed TDF area in the south. The site consists of 3 Graves of which 2 have marble grave dressings which are in dilapidated state and the remaining grave is indicated by stone piles. The remaining graves are indicated by stone piles. The following inscription was recorded:

*Phaladi, Mohlapa Ramaredi
1905-03-12 - 1940-07-26
Robala Ka Khutso Mohlapa*



Figure 5-26: Marked and unmarked graves at Site BP07.

- **Site BP08 (S24°23'55.33" E29°42'28.21"): Possible unmarked grave.**

A single stone cairn resembling a grave with dressing of painted red stones were recorded in the proposed TDF area. Although the structure does not necessarily resemble a typical grave, a cold-drink bottle and snuff containers have been placed might suggest that it is a historical burial.



Figure 5-27: Stone heap, possibly unmarked graves at Site BP08.

- **Site BP09 (S24°23'14.32" E29°42'46.22"): Single marked grave with newly erected marble headstone.**

Another single grave with marble grave dressing was recorded north of the proposed TDF. The site consists of a grave which is demarcated by a recently erected inscribed granite headstone. Tombstone erected by Matsawa Mem (0832682147). The following inscription was recorded:

Chaba, Tlhesagotjea John

1901-02-03 - 1928-10-14

Robala Ka Khutso Napenyana wa Mosebo le Mahlako wa Serogole



Figure 5-28: Single grave at Site BP09.

- **Site BP010 (S24°23'54.19" E29°43'4.62"): 8 Marked and Unmarked Graves.**

A small cemetery was recorded in the proposed TDF area in the south-east. The site consists of 8 graves of which 2 have recently erected marble grave dressings, 2 have informal hand-inscribed headstones which are in dilapidated state and the remaining grave is indicated by stone piles. The following inscriptions were recorded:

Mazwi, Matsieng
 1909-03-05 - 1959-09-07
 In loving memory of Matsieng, Ngwamorei 'a Hlabirwa

Mazwi, Ramathabathe
 1913-04-10 - 1961-12-11
 In loving memory of Ramathabathe, buried 1961-12-12
 Hunadi 'a Mazwi

Mazwi, Ngwanama,
 1912 – 1984
 Ngwanama kwa ben Maswi

Mazwi, Mokgoko Phillimon
 1987-01-07



Figure 5-29: Numerous marked and unmarked graves at Site BP10.

- **Site BP11 (S24°23'57.61" E29°43'06.48"): Marked and Unmarked Graves**

Another small cemetery was recorded directly south of Site BP10 in the proposed TDF area, near a cluster of homesteads. The site consists of 5 Graves of which one have a weathered name plaque. The remaining graves are indicated by stone piles. The following inscription was recorded:

Maleka, Raisibe
1903-02-06 - 2009-04-16
Robala Ka Khutso



Figure 5-30: Grave marker and stone heaps and Site BP11.

- **Site BP12 (S24°24'02.71" E29°43'08.30"): Single Marked Grave**

A further single grave with marble grave dressing was recorded towards the south-eastern section of the proposed TDF. The site consists of a grave which is demarcated by a recently erected granite headstone which has been covered in bubble plastic wrap, and stones placed around the grave.



Figure 5-31: Single grave at Site BP12

STUDY AREA 3

- **Site BP02 (S24°21'15.87" E29°43'34.32"): Recent family cemetery.**

A small family cemetery was located on the northern periphery of Study Area 3. The majority of graves belong to relatives of the Selema family and the cemetery has been in use until recently.

- **Site BP03 (S24°21'47.46" E29°44'16.86"): Single grave.**

A single grave, belonging to the 82 year old Sefiri Thaba who passed away in 1972 occurs outside one of the recent homesteads on the eastern boundary of Study Area 3.

- **Site BP04 (S24°24'02.66" E29°43'37.41"): Recent family cemetery.**

A small family cemetery was located on the south-western periphery of Study Area 3 on a slope above the village of Mabokotswane. All graves belong to relatives of the Phaladi family and the cemetery has been in use until recent years.



Figure 5-32: Family cemeteries (left and centre) and a single marked grave in Study Area 3.

- **Possible other Burial Sites**

In this area, graves and family cemeteries are generally to be found in association with homesteads, crop fields and historical buildings and a number of unrecorded burials will, in all probability occur around these locations.

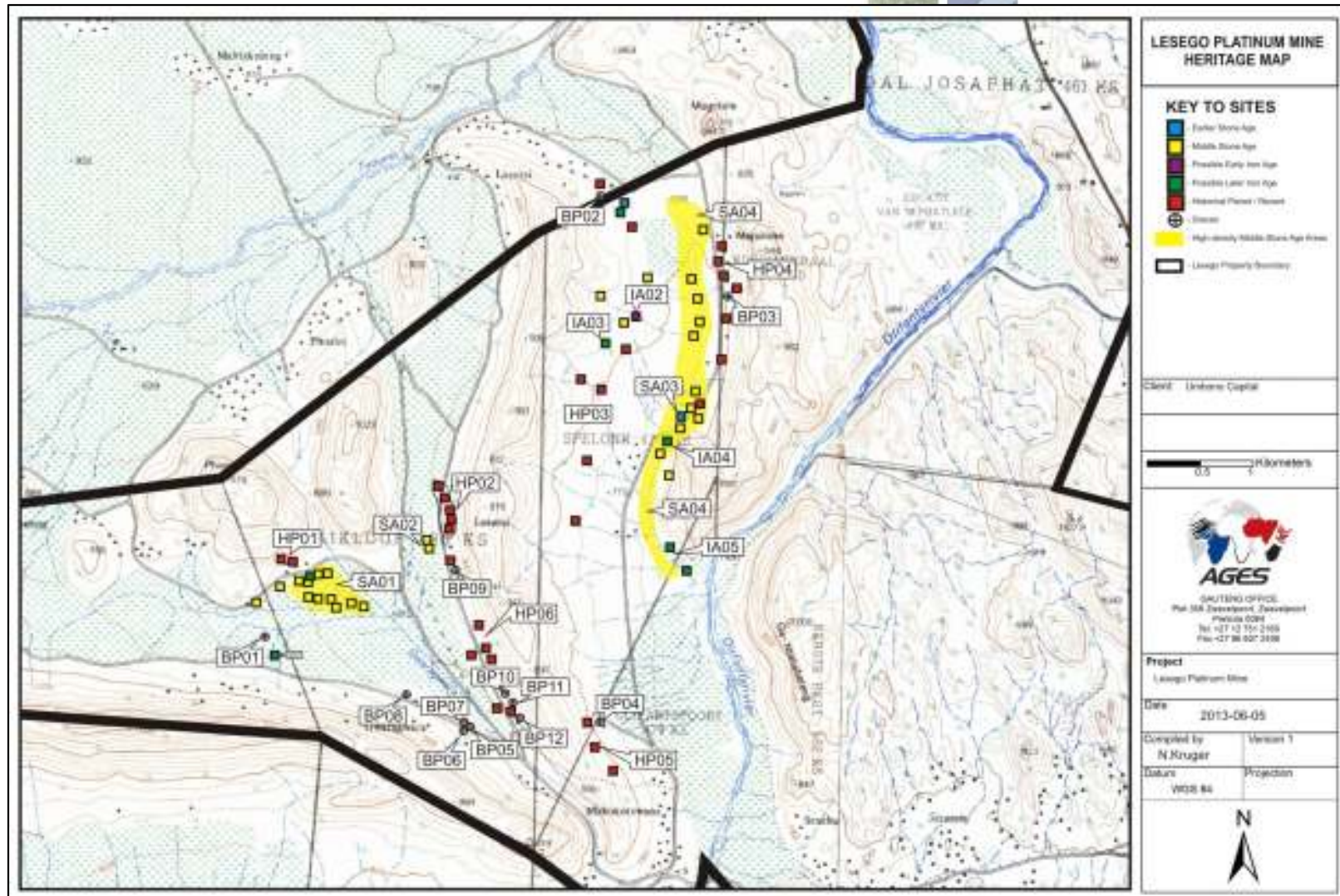


Figure 5-33: Map of the Lesego Platinum Mine Study Area indicating the locations of sites of interest discussed in the text.

6 ARCHAEO-HISTORICAL CONTEXT

6.1 The archaeology of Southern Africa

Archaeology in southern Africa is typically divided into two main fields of study, the **Stone Age** and the **Iron Age** or **Farmer Period**.

The following table provides a concise outline of the chronological sequence of periods, events, cultural groups and material expressions in Southern African pre-history and history:

Period	Epoch	Associated cultural groups	Typical Material Expressions
Early Stone Age 2.5m – 250 000 YCE	Pleistocene	Early Hominins: <i>Australopithecines</i> <i>Homo habilis</i> <i>Homo erectus</i>	Typically large stone tools such as hand axes, choppers and cleavers.
Middle Stone Age 250 000 – 25 000 YCE	Pleistocene	First <i>Homo sapiens</i> species	Typically smaller stone tools such as scrapers, blades and points.
Late Stone Age 20 000 BC – present	Pleistocene / Holocene	<i>Homo sapiens sapiens</i> including San people	Typically small to minute stone tools such as arrow heads, points and bladelets.
Early Iron Age / Early Farmer Period 300 – 900 AD	Holocene	First Bantu-speaking groups	Typically distinct ceramics, bead ware, iron objects, grinding stones.
Middle Iron Age (Mapungubwe / K2) / early Later Farmer Period 900 – 1350 AD	Holocene	Bantu-speaking groups, ancestors of present-day groups	Typically distinct ceramics, bead ware and iron / gold / copper objects, trade goods and grinding stones.
Late Iron Age / Later Farmer Period 1400 AD -1850 AD	Holocene	Various Bantu-speaking groups including Venda, Thonga, Sotho-Tswana and Zulu	Distinct ceramics, grinding stones, iron objects, trade objects, remains of iron smelting activities including iron smelting furnace, iron slag and residue as well as iron ore.
Historical / Colonial Period ±1850 AD – present	Holocene	Various Bantu-speaking groups as well as European farmers, settlers and explorers	Remains of historical structures e.g. homesteads, missionary schools etc. as well as, glass, porcelain, metal and ceramics.

6.1.1 The Stone Ages

- The Earlier Stone Age (ESA)

Earlier Stone Age deposits typically occur on the flood-plains of perennial rivers and may date to between 2 million and 250 000 years ago. These ESA open sites sometimes contain stone tool scatters and manufacturing debris ranging from pebble tool choppers to core tools such as handaxes and cleavers. These stone tools were made by the earliest hominins. These groups seldom actively hunted and relied heavily on the opportunistic scavenging of meat from carnivore kill sites.

- The Middle Stone Age (MSA)

The majority of Middle Stone Age (MSA) sites occur on flood plains and sometimes in caves and rock shelters. Sites usually consist of large concentrations of knapped stone flakes such as scrapers, points and blades and associated manufacturing debris. Tools may have been hafted but organic materials, such as those used in hafting, seldom remain preserved in the archaeological record. Limited drive-hunting activities are also associated with the MSA.



- The Later Stone Age (LSA)

Sites dating to the Later Stone Age (LSA) are better preserved in rock shelters, although open sites with scatters of mainly stone tools can occur. Well-protected deposits in shelters allow for stable conditions that result in the preservation of organic materials such as wood, bone, hearths, ostrich eggshell beads and even bedding material. By using San (Bushman) ethnographic data a better understanding of this period is possible. South African rock art is also associated with the LSA.

6.1.2 The Iron Age (Farmer Period)

- Early Iron Age (Early Farming Communities)

The Early Iron Age (also Early Farmer Period) marks the movement of Bantu speaking farming communities into South Africa at around 200 A.D. These groups were agro-pastoralists that settled in the vicinity of water in order to provide subsistence for their cattle and crops. Artefact evidence from Early Farmer Period sites is mostly found in the form of ceramic assemblages and the origins and archaeological identities of this period are largely based upon ceramic typologies and sequences, where diagnostic pottery assemblages can be used to infer group identities and to trace movements across the landscape. Early Farmer Period ceramic traditions are classified by some scholars into different “streams” or trends in pot types and decoration that, over time emerged in southern Africa. These “streams” are identified as the Kwale Branch (east), the Nkope Branch (central) and the Kalundu Branch (west). More specifically, in the northern regions of South Africa at least three settlement phases have been distinguished for prehistoric Bantu-speaking agropastoralists. The first phase of the Early Iron Age, known as Happy Rest (named after the site where the ceramics were first identified), is representative of the Western Stream of migrations, and dates to AD 400 - AD 600. The second phase of Diamant is dated to AD 600 - AD 900 and was first recognized at the eponymous site of Diamant in the western Waterberg. The third phase, characterised by herringbone-decorated pottery of the Eiland tradition, is regarded as the final expression of the Early Iron Age (EIA) and occurs over large parts of the North West Province, Northern Province, Gauteng and Mpumalanga. This phase has been dated to about AD 900 - AD 1200. Early Farmer Period ceramics typically display features such as large and prominent inverted rims, large neck areas and fine elaborate decorations. The Early Iron Age continued up to the end of the first millennium AD.

- Middle Iron Age / K2 Mapungubwe Period (early Later Farming Communities)

The onset of the middle Iron Age dates back to ± 900 AD, a period more commonly known as the Mapungubwe / K2 phase. These names refer to the well-known archaeological sites that are today the pinnacle of South Africa's Iron Age heritage. The inhabitants of K2 and Mapungubwe, situated on the banks of the Limpopo, were agriculturalists and pastoralists and were engaged in extensive trade activities with local and foreign traders. Although the identity of this Bantu-speaking group remains a point of contestation, the Mapungubwe people were the first state-organized society southern Africa has known. A considerable amount of golden objects, ivory, beads (glass and gold), trade goods and clay figurines as well as large amounts of potsherds were found at these sites and also appear in sites dating back to this phase of the Iron Age. Ceramics of this tradition take the form of beakers with upright sides and decorations around the base (K2) and shallow-shouldered bowls with decorations as well as globular pots with long necks. (Mapungubwe). The site of Mapungubwe was deserted at around 1250 AD and this also marks the relative conclusion of this phase of the Iron Age.

- Later Iron Age (Later Farming Communities)

The late Iron Age of southern Africa marks the grouping of Bantu speaking groups into different cultural units. It also signals one of the most influential events of the second millennium AD in southern Africa, the difaqane. The difaqane (also known as “the scattering”) brought about a dramatic and sudden ending to centuries of stable

society in southern Africa. Reasons for this change was essentially the first penetration of the southern African interior by Portuguese traders, military conquests by various Bantu speaking groups primarily the ambitious Zulu King Shaka and the beginning of industrial developments in South Africa. Different cultural groups were scattered over large areas of the interior. These groups conveyed with them their customs that in the archaeological record manifest in ceramics, beads and other artefacts. This means that distinct pottery typologies can be found in the different late Iron Age groups of South Africa.

6.1.3 Historical and Colonial Times and Recent History:

The Historical period in southern Africa encompass the course of Europe's discovery of South Africa and the spreading of European settlements along the East Coast and subsequently into the interior. In addition, the formation stages of this period are marked by the large scale movements of various Bantu-speaking groups in the interior of South Africa, which profoundly influenced the course of European settlement. Finally, the final retreat of the San and Khoekhoen groups into their present-day living areas also occurred in the Historical period in southern Africa.

6.2 Steelpoort: Specific Themes

The regions surrounding the Eastern Cape and the Lesotho frontier have been the subject of few archaeological research projects. However, the area displays a rich archaeological landscape with significant palaeontological, archaeological and historical sites.

6.2.1 Stone Age Occurrences

Human habitation of the Steelpoort area dates back as far as the earlier Stone Age. One of the more important sites, known as Bushman Rock Shelter, is located at Echo Caves north of Ohrigstad. Early humans lived here for thousands of years from the Early Stone Age, through what is known as the Middle Stone Age and well into the Late Stone Age. The majority of Stone Age finds are classified as isolated surface occurrences, and mostly date to the Middle Stone Age. The location of Stone Age scatters at the Lesego Project Area corresponds with a general Stone Age site distribution pattern in the area where Stone Age archaeological sites in the landscape occur near water sources close to local sources of rare raw materials in lithic manufacture. The occurrence of some of the lithics (e.g. in Study Area 1) is probably of limited scientific value due to the mixing of artefacts caused by riverbank erosion. However, the MSA occurrences in Survey Area 3 are much more abundant. From the deposition pattern and stratigraphy as observed in erosion gullies in this area, it is clear that the lithic scatters occur mainly as multiple horizons within a calcrete formation. In addition, an ephemeral surface overlay of Later Stone Age (LSA) artefacts produced on a variety of raw materials occurs in places. These materials are mostly of igneous origin, and predominantly fine-grained Cryptocrystalline Silicas (CCS) including quartzes, chalcedony, agates and mudstones, but also fine-grained dolerite and banded ironstone. Distinct production technologies were used to manufacture a range of specific tool types, resulting in characteristic features and attributes. Typical MSA tool types comprise blades, convergent flakes and backed formal tools. The latter tool types are mostly unifacial and bifacial points, knives, a variety of scrapers and also perforating tools (Thackeray 1992: Wadley 2005; Soriano et al 2007). The evidence for stages of lithic reduction, as observed in the dongas at Lesego points to some primary deposition and site integrity. However, only an in-depth technological study will identify a chain(s) of knapping operations, which can inform on such aspects, and also whether there are differences in knapping operations that may indicate chronological periods, e.g. early or final MSA depositions (Wadley 2001:216).

6.2.2 Iron Age / Farmer Period Sites

Iron Age people moved into southern Africa by c. AD 200, entering the area either by moving down the coastal plains, or by using a more central route. It seems more likely that the first option was what brought people into the Steelpoort area. From the coast they followed the various rivers inland. Being cultivators, they preferred rich alluvial soils. One of the earliest dated Iron Age sites is located near Tzaneen (Silver Leaves). Iron Age occupation of the larger Steelpoort area seems to have taken place on a significant scale and of note is the Doornkop phase of the Early Iron Age. A thousand years ago this large and sophisticated community existed for hundreds of years in the Steelpoort area. Known to archaeologists as the “Doornkop phase” (named after the type site) of the Earlier Iron Age, these people are well-known for the extraordinary clay masks they produced, some of which was found on a site near Lydenburg. These settlements seem to have been followed at a slightly later date by settlements linked to the “Eiland Phase” of the EIA (c. AD 1000) which lasted well into the second millennium AD. Early Iron Age sites are generally our only source of evidence for the occupation of the area by early farming communities. As such these sites are important and they are viewed to have medium to high significance.

The last period of pre-colonial occupation consisted of Pedi-, Swazi- and Ndebele-speaking people that settled on terraced sites at the foot on the mountains. A single decorated potsherd from Site IA5 displays motives similar to that of the Maloko ceramic tradition, which can be broadly associated with some of these groups. The last 500 years in the area were characterised by population movements, conflict, contact and change which largely resulted in the current population and demographic distribution in the area today. The resonance of these sites in contemporary history generally deems them of medium significance.

6.2.3 Historical Period / Recent Sites

The Historical / Colonial Period in the Steelpoort area commenced roughly in the early 19th century with the arrival of the first white settlers. After negotiations between the Voortrekkers and the Pedi, the Steelpoort River was set as border between the groups. However, tension soon followed which rapidly resulted to armed conflict, notably the so-called Sekhukhune Wars (1876, 1879) if which remnants are still to be found in the larger geographical region. Later, during the so-called Mapoch Wars (1863, 1883) resulting land-ownership conflicts were contested. In later years, farms were proclaimed, most of which were used only for winter grazing. This was followed by a period when farmsteads and road infrastructure developed. In recent years, the substantial mineral wealth of the area was realised, primarily resulting from seminal work by geologist Hans Merensky.

7 RESULTS: STATEMENT OF SIGNIFICANCE AND IMPACT RATING

7.1 Heritage resources management and conservation

Archaeological sites, as previously defined in the National Heritage Resources Act (Act 25 of 1999) are places in the landscape where people have lived in the past – generally more than 60 years ago – and have left traces of their presence behind. In South Africa, archaeological sites include hominid fossil sites, places where people of the Earlier, Middle and Later Stone Age lived in open sites, river gravels, rock shelters and caves, Iron Age sites, graves, and a variety of historical sites and structures in rural areas, towns and cities. Palaeontological sites are those with fossil remains of plants and animals where people were not involved in the accumulation of the deposits. The basic principle of cultural heritage conservation is that archaeological and other heritage sites are valuable, scarce and *non-renewable*. Many such sites are unfortunately lost on a daily basis through development for housing, roads and infrastructure and once archaeological sites are damaged, they cannot be re-created as site integrity and authenticity is permanently lost. Archaeological sites have the

potential to contribute to our understanding of the history of the region and of our country and continent. By preserving links with our past, we may not be able to revive lost cultural traditions, but it enables us to appreciate the role they have played in the history of our country.

7.2 Categories of significance

Rating the significance of archaeological sites, and consequently grading the potential impact on the resources is linked to the significance of the site itself. The significance of an archaeological site is based on the amount of deposit, the integrity of the context, the kind of deposit and the potential to help answer present research questions. Historical structures are defined by Section 34 of the National Heritage Resources Act, 1999, while other historical and cultural significant sites, places and features, are generally determined by community preferences. The guidelines as provided by the NHRA (Act No. 25 of 1999) in Section 3, with special reference to subsection 3 are used when determining the cultural significance or other special value of archaeological or historical sites. In addition, ICOMOS (the Australian Committee of the International Council on Monuments and Sites) highlights four cultural attributes, which are valuable to any given culture:

- *Aesthetic value:*

Aesthetic value includes aspects of sensory perception for which criteria can and should be stated. Such criteria include consideration of the form, scale, colour, texture and material of the fabric, the general atmosphere associated with the place and its uses and also the aesthetic values commonly assessed in the analysis of landscapes and townscape.

- *Historic value:*

Historic value encompasses the history of aesthetics, science and society and therefore to a large extent underlies all of the attributes discussed here. Usually a place has historical value because of some kind of influence by an event, person, phase or activity.

- *Scientific value:*

The scientific or research value of a place will depend upon the importance of the data involved, on its rarity, quality and on the degree to which the place may contribute further substantial information.

- *Social value:*

Social value includes the qualities for which a place has become a focus of spiritual, political, national or other cultural sentiment to a certain group.

It is important for heritage specialist input in the EIA process to take into account the heritage management structure set up by the NHR Act. It makes provision for a 3-tier system of management including the South Africa Heritage Resources Agency (SAHRA) at a national level, Provincial Heritage Resources Authorities (PHRAs) at a provincial and the local authority. The Act makes provision for two types or forms of protection of heritage resources; i.e. formally protected and generally protected sites:

Formally protected sites:

- Grade 1 or national heritage sites, which are managed by SAHRA
- Grade 2 or provincial heritage sites, which are managed by the local PHRA.
- Grade 3 of local heritage sites, which are managed by local authorities.
-

Generally protected sites:

- Human burials older than 60 years.

- Archaeological and palaeontological sites.
- Shipwrecks and associated remains older than 70 years.
- Structures older than 60 years.

With reference to the evaluation of sites, the certainty of prediction is definite, unless stated otherwise and if the significance of the site is rated high, the significance of the impact will also result in a high rating. The same rule applies if the significance rating of the site is low. The significance of archaeological sites is generally ranked into the following categories.

Significance	Rating Action
No significance: sites that do not require mitigation.	None
Low significance: sites, which may require mitigation.	2a. Recording and documentation (Phase 1) of site; no further action required 2b. Controlled sampling (shovel test pits, augering), mapping and documentation (Phase 2 investigation); permit required for sampling and destruction
Medium significance: sites, which require mitigation.	3. Excavation of representative sample, C14 dating, mapping and documentation (Phase 2 investigation); permit required for sampling and destruction [including 2a & 2b]
High significance: sites, where disturbance should be avoided.	4a. Nomination for listing on Heritage Register (National, Provincial or Local) (Phase 2 & 3 investigation); site management plan; permit required if utilised for education or tourism
High significance: Graves and burial places	4b. Locate demonstrable descendants through social consulting; obtain permits from applicable legislation, ordinances and regional by-laws; exhumation and reinterment [including 2a, 2b & 3]

Furthermore, the significance of archaeological sites was based on six main criteria:

- Site integrity (i.e. primary vs. secondary context),
- Amount of deposit, range of features (e.g., stonewalling, stone tools and enclosures),
- Density of scatter (dispersed scatter),
- Social value,
- Uniqueness, and
- Potential to answer current and future research questions.

A fundamental aspect in assessing the significance and protection status of a heritage resource is often whether or not the sustainable social and economic benefits of a proposed development outweigh the conservation issues at stake. When, for whatever reason the protection of a heritage site is not deemed necessary or practical, its research potential must be assessed and mitigated in order to gain data / information, which would otherwise be lost.

7.3 Potential Impacts and Significance Ratings¹

The following section provides a background to the identification and assessment of possible impacts and alternatives, as well as a range of risk situations and scenarios commonly associated with heritage resources management. The section ultimately provides a guideline (Section 7.3.1, Section 7.3.2 & Section 7.3.3) for the rating of impacts and recommendation of management actions for sites of heritage potential in the Lesego Mine project area, as supplied in section 7.3.4.

¹ Based on: Winter, S. & Baumann, N. 2005. *Guideline for involving heritage specialists in EIA processes: Edition 1.*

7.3.1 General assessment of impacts on resources

Generally, the value and significance of archaeological and other heritage sites might be impacted on by any activity that would result immediately or in the future in the destruction, damage, excavation, alteration, removal or collection from its original position, any archaeological material or object (as indicated in the National Heritage Resources Act (No 25 of 1999)). Thus, the destructive impacts that are possible in terms of heritage resources would tend to be direct, once-off events occurring during the initial construction period. However, in the long run, the proximity of operations in any given area could result in secondary indirect impacts. The EIA process therefore specifies impact assessment criteria which can be utilised from the perspective of a heritage specialist study which elucidates the overall extent of impacts.

Significance of the heritage resource

This is a statement of the nature and degree of significance of the heritage resource being affected by the activity. From a heritage management perspective it is useful to distinguish between whether the significance is embedded in the physical fabric or in associations with events or persons or in the experience of a place; i.e. its visual and non-visual qualities. This statement is a primary informant to the nature and degree of significance of an impact and thus needs to be thoroughly considered. Consideration needs to be given to the significance of a heritage resource at different scales (i.e. sitespecific, local, regional, national or international) and the relationship between the heritage resource, its setting and its associations.

Nature of the impact

This is an assessment of the nature of the impact of the activity on a heritage resource, with some indication of its positive and/or negative effect/s. It is strongly informed by the statement of resource significance. In other words, the nature of the impact may be historical, aesthetic, social, scientific, linguistic or architectural, intrinsic, associational or contextual (visual or non-visual). In many cases, the nature of the impact will include more than one value.

Extent

Here it should be indicated whether the impact will be experienced:

- On a site scale, i.e. extend only as far as the activity;
- Within the immediate context of a heritage resource;
- On a local scale, e.g. town or suburb
- On a metropolitan or regional scale; or
- On a national/international scale.

Duration

Here it should be indicated whether the lifespan of the impact will be:

- Short term, (needs to be defined in context)
- Medium term, (needs to be defined in context)
- Long term where the impact will persist indefinitely, possibly beyond the operational life of the activity, either because of natural processes or by human intervention; or
- Permanent where mitigation either by natural process or by human intervention will not occur in such a way or in such a time span that the impact can be considered transient.

Of relevance to the duration of an impact are the following considerations:

- Reversibility of the impact; and
- Renewability of the heritage resource.

Intensity / Magnitude / Severity

Here it should be established whether the impact should be indicated as:

- Low, where the impact affects the resource in such a way that its heritage value is not affected;
- Medium, where the affected resource is altered but its heritage value continues to exist albeit in a modified way; and
- High, where heritage value is altered to the extent that it will temporarily or permanently be damaged or destroyed.

Probability

This should describe the likelihood of the impact actually occurring indicated as:

- Improbable, where the possibility of the impact to materialize is very low either because of design or historic experience;
- Probable, where there is a distinct possibility that the impact will occur;
- Highly probable, where it is most likely that the impact will occur; or
- Definite, where the impact will definitely occur regardless of any mitigation measures

Confidence

This should relate to the level of confidence that the specialist has in establishing the nature and degree of impacts. It relates to the level and reliability of information, the nature and degree of consultation with I&AP's and the dynamic of the broader socio-political context.

- High, where the information is comprehensive and accurate, where there has been a high degree of consultation and the socio-political context is relatively stable.
- Medium, where the information is sufficient but is based mainly on secondary sources, where there has been a limited targeted consultation and socio-political context is fluid.
- Low, where the information is poor, a high degree of contestation is evident and there is a state of socio-political flux.

Impact Significance

The significance of impacts can be determined through a synthesis of the aspects produced in terms of the nature and degree of heritage significance and the nature, duration, intensity, extent, probability and confidence of impacts and can be described as:

- Low; where it would have a negligible effect on heritage and on the decision
- Medium, where it would have a moderate effect on heritage and should influence the decision.
- High, where it would have, or there would be a high risk of, a big effect on heritage. Impacts of high significance should have a major influence on the decision;
- Very high, where it would have, or there would be high risk of, an irreversible and possibly irreplaceable negative impact on heritage. Impacts of very high significance should be a central factor in decision-making.

7.3.2 Direct impact rating

Direct or primary effects on heritage resources occur at the same time and in the same space as the activity, e.g. loss of historical fabric through demolition work. **Indirect effects or secondary effects** on heritage resources occur later in time or at a different place from the causal activity, or as a result of a complex pathway, e.g. restriction of access to a heritage resource resulting in the gradual erosion of its significance, which is dependent on ritual patterns of access. The following table provides an outline as to the relationship between the significance of a heritage context, the intensity of development and the significance of heritage impacts to be expected.

HERITAGE CONTEXT	TYPE OF DEVELOPMENT			
	CATEGORY A	CATEGORY B	CATEGORY C	CATEGORY D
CONTEXT 1 High heritage Value	Moderate heritage impact expected	High heritage impact expected	Very high heritage impact expected	Very high heritage impact expected
CONTEXT 2 Medium to high heritage value	Minimal heritage impact expected	Moderate heritage impact expected	High heritage impact expected	Very high heritage impact expected
CONTEXT 3 Medium to low heritage value	Little or no heritage impact expected	Minimal heritage impact expected	Moderate heritage impact expected	High heritage impact expected
CONTEXT 4 Low to no heritage value	Little or no heritage impact expected	Little or no heritage impact expected	Minimal heritage value expected	Moderate heritage impact expected
NOTE: A DEFAULT "LITTLE OR NO HERITAGE IMPACT EXPECTED" VALUE APPLIES WHERE A HERITAGE RESOURCE OCCURS OUTSIDE THE IMPACT ZONE OF THE DEVELOPMENT.				
HERITAGE CONTEXTS		CATEGORIES OF DEVELOPMENT		
Context 1: Of high intrinsic, associational and contextual heritage value within a national, provincial and local context, i.e. formally declared or potential Grade 1, 2 or 3A heritage resources Context 2: Of moderate to high intrinsic, associational and contextual value within a local context, i.e. potential Grade 3B heritage resources. Context 3:		Category A: Minimal intensity development <ul style="list-style-type: none"> - No rezoning involved; within existing use rights. - No subdivision involved. - Upgrading of existing infrastructure within existing envelopes - Minor internal changes to existing structures - New building footprints limited to less than 1000m². Category B: Low-key intensity development <ul style="list-style-type: none"> - Spot rezoning with no change to overall zoning of a site. - Linear development less than 100m 		

<p>Of medium to low intrinsic, associational or contextual heritage value within a national, provincial and local context, i.e. potential Grade 3C heritage resources</p> <p>Context 4: Of little or no intrinsic, associational or contextual heritage value due to disturbed, degraded conditions or extent of irreversible damage.</p>	<ul style="list-style-type: none"> - Building footprints between 1000m2-2000m2 - Minor changes to external envelop of existing structures (less than 25%) - Minor changes in relation to bulk and height of immediately adjacent structures (less than 25%). <p>Category C: Moderate intensity development</p> <ul style="list-style-type: none"> - Rezoning of a site between 5000m2-10 000m2. - Linear development between 100m and 300m. - Building footprints between 2000m2 and 5000m2 - Substantial changes to external envelop of existing structures (more than 50%) - Substantial increase in bulk and height in relation to immediately adjacent buildings (more than 50%) <p>Category D: High intensity development</p> <ul style="list-style-type: none"> - Rezoning of a site in excess of 10 000m2 - Linear development in excess of 300m. - Any development changing the character of a site exceeding 5000m2 or involving the subdivision of a site into three or more erven. - Substantial increase in bulk and height in relation to immediately adjacent buildings (more than 100%)
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7.3.3 Management actions

Recommendations on relevant heritage resources management actions are vital to the conservation of heritage resources. Recommended management actions may include the following:

No further action / Monitoring

Where no heritage resources have been documented, heritage resources occur well outside the impact zone of any development or the primary context of the surroundings at a development footprint has been largely destroyed or altered, no further immediate action is required. Site monitoring during development, by an ECO or the heritage specialist are often added to this recommendation in order to ensure that no undetected heritage remains are destroyed.

Avoidance

This is appropriate where any type of development occurs within a formally protected or significant or sensitive heritage context and is likely to have a high negative impact. Mitigation is not acceptable or not possible. This measure often includes the change / alteration of development planning and therefore impact zones in order not to impact on resources,

Mitigation

This is appropriate where development occurs in a context of heritage significance and where the impact is such that it can be mitigated to a degree of medium to low significance, e.g. the high to medium impact of a development on an archaeological site could be mitigated through sampling/excavation of the remains. Not all negative impacts can be mitigated.

Compensation

Compensation is generally not an appropriate heritage management action. The main function of management actions should be to conserve the resource for the benefit of future generations. Once lost it cannot be renewed. The circumstances around the potential public or heritage benefits would need to be exceptional to warrant this type of action, especially in the case of where the impact was high.

Rehabilitation

Rehabilitation is considered in heritage management terms as a intervention typically involving the adding of a new heritage layer to enable a new sustainable use. It is not appropriate when the process necessitates the removal of previous historical layers, i.e. restoration of a building or place to the previous state/period. It is an appropriate heritage management action in the following cases:

- The heritage resource is degraded or in the process of degradation and would benefit from rehabilitation.
- Where rehabilitation implies appropriate conservation interventions, i.e. adaptive reuse, repair and maintenance, consolidation and minimal loss of historical fabric.
- Where the rehabilitation process will not result in a negative impact on the intrinsic value of the resource.

Enhancement

Enhancement is appropriate where the overall heritage significance and its public appreciation value are improved. It does not imply creation of a condition that might never have occurred during the evolution of a place, e.g. the tendency to sanitize the past. This management action might result from the removal of previous layers where these layers are culturally of low significance and detract from the significance of the resource. It would be appropriate in a range of heritage contexts and applicable to a range of resources. In the case of formally protected or significant resources, appropriate enhancement action should be encouraged. Care should, however, be taken to ensure that the process does not have a negative impact on the character and context of the resource. It would thus have to be carefully monitored.

7.3.4 Site significance and impact rating

Refer to Section 7.3.1, Section 7.3.2 & Section 7.3.3 for background on the rating of impacts and recommendation of management actions for sites of heritage potential. Impact thresholds and management measures for the sites are further discussed in section 7.3.5.

- Site SA01: MSA lithic scatters across drainage line.

1. SITE DESCRIPTION							
1.1 General Site Description							
MSA lithic scatters							
1.2 Site features / artefacts / Other							
Site Location							
Province / District	Limpopo Province			Map Number	2429BC		
Farm Name	Zaakloof 480 KS			Co-ordinates	S24°23'26.33"	E29°41'57.61"	
Site Type							
Surface sites				Caves and rock shelters			
Larger open-air sites	X			Sealed sites (deposits)			
River deposits				Other			
Site Function							
Living / habitation	X			Kill			
Ceremonial				Burial			
Trading / Barter				Art			
Quarry / Mining / Smelting				Other	X – debris / scatter site		
Site Placement							
Valley floor		Hill top		Vlei/swamp		River Mouth	
Dam		River Bank		Slope		Plains	X
Other / Comments							
Vegetation							
Riverine forest		Bushveld	X	Savannah		Mountain forest	
Thornveld	X	Grassland	X	Cultivated		Other	
Age Classification							
Stone Age	X	Early Iron Age		Middle Iron Age		Later Iron Age	
Historical		Other					
Material Culture							
Midden		House Remains		Stone Walling		Stone Structures	
Granary		Grinding Stone (L)		Grinding Stone (U)		Granary Stand	
Metal		Ceramics (Pottery)		Ceramics (Porcelain)		Stone (non-lithic)	
Metal slag		Tuyere		Fauna		Bead (Glass)	
Bead (OES / Shell)		Glass		Lithics	X	Smelting Residues	
Other:				Other:			
1.3 Site Condition							
Site preservation is poor and artefact density is low.							
2. SITE EVALUATION							
2.1 Heritage Value (NHRA, section 2 [3])				High	Medium	Low	
It has importance to the community or pattern of South Africa's history or pre-colonial history.						X	
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.						X	

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It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.			X
It is of importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.			X
It has importance in exhibiting particular aesthetic characteristics valued by a particular community or cultural group.			X
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.		X	
It has marked or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).			X
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.			X
It has significance through contributing towards the promotion of a local sociocultural identity and can be developed as a tourist destination.			X
It has significance relating to the history of slavery in South Africa.			X
It has importance to the wider understanding of temporal changes within cultural landscapes, settlement patterns and human occupation.			X

2.2 Field Register Rating

National/Grade 1 [should be registered, retained]	
Provincial/Grade 2 [should be registered, retained]	
Local/Grade 3A [should be registered, mitigation not advised]	
Local/Grade 3B [High significance; mitigation, partly retained]	
Generally Protected A [High/Medium significance, mitigation]	
Generally protected B [Medium significance, to be recorded]	
Generally Protected C [Low significance, no further action]	X

2.3 Sphere of Significance	High	Medium	Low
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International			
National			
Provincial			
Local			X
Specific community			

3. IMPACT RATING AND MITIGATION
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3.1 Impact assessment

APPROXIMATE DISTANCE FROM DEVELOPMENT: 0 - 100METERS

NATURE OF IMPACT: Historical & Scientific

EXTENT OF IMPACT: Local

SPECIALIST LEVEL OF CONFIDENCE IN DEGREE OF IMPACT AND SEVERITY: High

3.2 Impact Significance and Severity

	Without Management*	With Management*
General assessment of impacts on resource (Refer to Section 7.3.1)	Duration	Permanent: Low
	Intensity	High
	Probability	Highly Probable
	Impact Significance	Medium

3.3 Direct Impact Rating

Direct impact on resource	None (the potential development does not adversely or positively affect the heritage resource)	
	Peripheral / Indirect (the heritage resource or its setting is located in proximity to the footprint of the potential development)	X
	Destruction / Direct (the heritage resource or site is physically located within the footprint of the potential development)	

Direct impact rating (Refer to Section 7.3.2) Note that a default "Little or no heritage impact expected" value applies where a heritage resource occurs outside	High heritage impact
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the impact matrix of the development.

3.4 Recommended Management* (refer to section 7.3.3)

Mitigation

Comments on recommended management

It is necessary that the site be monitored to ensure that heritage resources are not impacted on. If further impact occurs, or is envisaged at any stage of development and operation the following will be required:

- Documentation of sites.
- Further desktop study to more accurately ascertain context of sites.
- Relevant Permitting from Heritage Resources Authority.

4. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS

- National Heritage Resources Act (Act no. 25 of 1999)

- Site SA02: Minor MSA lithic scatter.

1. SITE DESCRIPTION

1.1 General Site Description

Isolated MSA lithic scatter

1.2 Site features / artefacts / Other

Site Location

Province / District	Limpopo Province	Map Number	2429BC
Farm Name	Zaakloof 480 KS	Co-ordinates	S24°23'07.89" E29°42'33.85"

Site Type

Surface sites	X	Caves and rock shelters	
Larger open-air sites		Sealed sites (deposits)	
River deposits		Other	

Site Function

Living / habitation		Kill	
Ceremonial		Burial	
Trading / Barter		Art	
Quarry / Mining / Smelting		Other	X – debris / scatter site

Site Placement

Valley floor		Hill top		Vlei/swamp		River Mouth	
Dam		River Bank	X	Slope		Plains	X
Other / Comments							

Vegetation

Riverine forest		Bushveld	X	Savannah		Mountain forest	
Thornveld	X	Grassland	X	Cultivated	X	Other	

Age Classification

Stone Age	X	Early Iron Age		Middle Iron Age		Later Iron Age	
Historical		Other					

Material Culture

Midden		House Remains		Stone Walling		Stone Structures	
Granary		Grinding Stone (L)		Grinding Stone (U)		Granary Stand	
Metal		Ceramics (Pottery)		Ceramics (Porcelain)		Stone (non-lithic)	
Metal slag		Tuyere		Fauna		Bead (Glass)	
Bead (OES / Shell)		Glass		Lithics	X	Smelting Residues	
Other:		Other:					

1.3 Site Condition

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The site integrity has been compromised by the mixing of artefacts caused by riverbank erosion.

2. SITE EVALUATION

2.1 Heritage Value (NHRA, section 2 [3])	High	Medium	Low
It has importance to the community or pattern of South Africa's history or pre-colonial history.		X	
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.			X
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.			X
It is of importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.		X	
It has importance in exhibiting particular aesthetic characteristics valued by a particular community or cultural group.			X
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.			X
It has marked or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).		X	
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.		X	
It has significance through contributing towards the promotion of a local sociocultural identity and can be developed as a tourist destination.			X
It has significance relating to the history of slavery in South Africa.			X
It has importance to the wider understanding of temporal changes within cultural landscapes, settlement patterns and human occupation.		X	

2.2 Field Register Rating

National/Grade 1 [should be registered, retained]	
Provincial/Grade 2 [should be registered, retained]	
Local/Grade 3A [should be registered, mitigation not advised]	
Local/Grade 3B [High significance; mitigation, partly retained]	
Generally Protected A [High/Medium significance, mitigation]	
Generally protected B [Medium significance, to be recorded]	X
Generally Protected C [Low significance, no further action]	

2.3 Sphere of Significance	High	Medium	Low
International			
National			
Provincial			
Local		X	
Specific community			

3. IMPACT RATING AND MITIGATION

3.1 Impact assessment

APPROXIMATE DISTANCE FROM DEVELOPMENT: 1000+ METERS

NATURE OF IMPACT: Historical & Scientific

EXTENT OF IMPACT: Local

SPECIALIST LEVEL OF CONFIDENCE IN DEGREE OF IMPACT AND SEVERITY: High

3.2 Impact Significance and Severity

General assessment of impacts on resource (Refer to Section 7.3.1)		Without Management*	With Management*
	Duration	Permanent: Low	Permanent: Low
	Intensity	Medium	Low
	Probability	Probable	Improbable
	Impact Significance	Low	Negligible

3.3 Direct Impact Rating

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Direct impact on resource	None (the potential development does not adversely or positively affect the heritage resource)	X
	Peripheral / Indirect (the heritage resource or its setting is located in proximity to the footprint of the potential development)	
	Destruction / Direct (the heritage resource or site is physically located within the footprint of the potential development)	
Direct impact rating (Refer to Section 7.3.2) Note that a default "no impact expected" value applies where a heritage resource occurs outside the impact matrix or applicable conservation buffers of the development.		No direct impact expected
3.4 Recommended Management* (refer to section 7.3.3)		
Monitoring		
Comments on recommended management		
It is necessary that the site be monitored to ensure that heritage resources are not impacted on. If further impact occurs, or is envisaged at any stage of development and operation the following will be required: <ul style="list-style-type: none"> - Documentation of sites - Site monitoring during development, by an ECO or the heritage specialist. 		
4. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS		
- National Heritage Resources Act (Act no. 25 of 1999)		

- Site SA03: ESA lithics in erosion gully.

1. SITE DESCRIPTION							
1.1 General Site Description							
ESA stone artefacts suspended in erosion gully.							
1.2 Site features / artefacts / Other							
Site Location							
Province / District		Limpopo Province		Map Number		2429BC	
Farm Name		Spelonk 478 KS		Co-ordinates		S24°22'30.12" E29°43'57.37"	
Site Type							
Surface sites				Caves and rock shelters			
Larger open-air sites				Sealed sites (deposits)		X	
River deposits		X		Other			
Site Function							
Living / habitation				Kill			
Ceremonial				Burial			
Trading / Barter				Art			
Quarry / Mining / Smelting				Other		X – lithic occurrence	
Site Placement							
Valley floor				Hill top			
Dam				River Bank		X	
				Slope			
Other / Comments							
Vegetation							
Riverine forest				Bushveld		X	
Thornveld		X		Grassland		X	
				Savannah			
				Cultivated			
				Mountain forest			
				Other			
Age Classification							
Stone Age		X		Early Iron Age			
Historical				Middle Iron Age			
				Later Iron Age			
				Other			
Material Culture							
Midden				House Remains			
Granary				Grinding Stone (L)			
				Grinding Stone (U)			
Metal				Ceramics (Pottery)			
				Ceramics (Porcelain)			
				Stone (non-lithic)			

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Metal slag		Tuyere		Fauna		Bead (Glass)	
Bead (OES / Shell)		Glass		Lithics	X	Smelting Residues	
Other:				Other:			

1.3 Site Condition

The site integrity has been somewhat compromised by the impact of natural elements.

2. SITE EVALUATION

2.1 Heritage Value (NHRA, section 2 [3])

	High	Medium	Low
It has importance to the community or pattern of South Africa's history or pre-colonial history.		X	
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.		X	
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.		X	
It is of importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.		X	
It has importance in exhibiting particular aesthetic characteristics valued by a particular community or cultural group.		X	
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.		X	
It has marked or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).		X	
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.		X	
It has significance through contributing towards the promotion of a local sociocultural identity and can be developed as a tourist destination.			X
It has significance relating to the history of slavery in South Africa.			X
It has importance to the wider understanding of temporal changes within cultural landscapes, settlement patterns and human occupation.		X	

2.2 Field Register Rating

National/Grade 1 [should be registered, retained]	
Provincial/Grade 2 [should be registered, retained]	
Local/Grade 3A [should be registered, mitigation not advised]	
Local/Grade 3B [High significance; mitigation, partly retained]	
Generally Protected A [High/Medium significance, mitigation]	
Generally protected B [Medium significance, to be recorded]	X
Generally Protected C [Low significance, no further action]	

2.3 Sphere of Significance

	High	Medium	Low
International			
National			
Provincial			
Local		X	
Specific community			

3. IMPACT RATING AND MITIGATION

3.1 Impact assessment

APPROXIMATE DISTANCE FROM DEVELOPMENT: 500+ METERS

NATURE OF IMPACT: Historical & Scientific

EXTENT OF IMPACT: Local

SPECIALIST LEVEL OF CONFIDENCE IN DEGREE OF IMPACT AND SEVERITY: High

3.2 Impact Significance and Severity

General assessment of impacts on resource (Refer to Section 7.3.1)		Without Management*	With Management*
	Duration	Permanent: Low	Permanent: Low

Lesego Platinum Mine: Archaeological Impact Assessment Report

	Intensity	Low	Low
	Probability	Improbable	Improbable
	Impact Significance	Low	Negligible

3.3 Direct Impact Rating		
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Direct impact on resource	None (the potential development does not adversely or positively affect the heritage resource)	X
	Peripheral / Indirect (the heritage resource or its setting is located in proximity to the footprint of the potential development)	
	Destruction / Direct (the heritage resource or site is physically located within the footprint of the potential development)	

Direct impact rating (Refer to Section 7.3.2) Note that a default "no impact expected" value applies where a heritage resource occurs outside the impact matrix or applicable conservation buffers of the development.	No impact expected
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3.4 Recommended Management* (refer to section 7.3.3)
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Monitoring: Ensure that site is not impacted on.

Comments on recommended management

It is necessary that the site be monitored to ensure that heritage resources are not impacted on. If further impact occurs, or is envisaged at any stage of development and operation the following will be required:

- Documentation of sites.
- Sampling of site by means of artefact collection and analysis.
- Further desktop study to more accurately ascertain context of sites.
- Relevant Permitting from Heritage Resources Authority where applicable. .

4. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS
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-	National Heritage Resources Act (Act no. 25 of 1999)
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- Site SA04: Major MSA lithic scatter

1. SITE DESCRIPTION							
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1.1 General Site Description							
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High density MSA lithic scatter.

1.2 Site features / artefacts / Other							
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Site Location							
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Province / District	Limpopo Province	Map Number	2429BC			
Farm Name	Spelonk 478 KS	Co-ordinates (north & south)	S24°21'27.02"	S24°23'08.45"	E29°44'08.78"	E29°44'00.23"

Site Type							
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Surface sites	X	Caves and rock shelters	
Larger open-air sites	X	Sealed sites (deposits)	
River deposits		Other	

Site Function							
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Living / habitation	X	Kill	
Ceremonial		Burial	
Trading / Barter		Art	
Quarry / Mining / Smelting		Other	X – debris / scatter site

Site Placement							
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Valley floor		Hill top		Vlei/swamp		River Mouth	
Dam		River Bank	X	Slope		Plains	X
Other / Comments							

Vegetation							
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Riverine forest		Bushveld	X	Savannah		Mountain forest	
Thornveld	X	Grassland	X	Cultivated		Other	

Age Classification							
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Stone Age	X	Early Iron Age		Middle Iron Age		Later Iron Age	
Historical		Other					
Material Culture							
Midden		House Remains		Stone Walling		Stone Structures	
Granary		Grinding Stone (L)		Grinding Stone (U)		Granary Stand	
Metal		Ceramics (Pottery)		Ceramics (Porcelain)		Stone (non-lithic)	
Metal slag		Tuyere		Fauna		Bead (Glass)	
Bead (OES / Shell)		Glass		Lithics	X	Smelting Residues	
Other:				Other:			
1.3 Site Condition							
Site preservation is good as high densities of Stone Age material occur, some of which are in primary context.							
2. SITE EVALUATION							
2.1 Heritage Value (NHRA, section 2 [3])				High	Medium	Low	
It has importance to the community or pattern of South Africa's history or pre-colonial history.					X		
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.					X		
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.					X		
It is of importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.					X		
It has importance in exhibiting particular aesthetic characteristics valued by a particular community or cultural group.					X		
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.				X			
It has marked or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).					X		
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.					X		
It has significance through contributing towards the promotion of a local sociocultural identity and can be developed as a tourist destination.							X
It has significance relating to the history of slavery in South Africa.							X
It has importance to the wider understanding of temporal changes within cultural landscapes, settlement patterns and human occupation.					X		
2.2 Field Register Rating							
National/Grade 1 [should be registered, retained]							
Provincial/Grade 2 [should be registered, retained]							
Local/Grade 3A [should be registered, mitigation not advised]							
Local/Grade 3B [High significance; mitigation, partly retained]							
Generally Protected A [High/Medium significance, mitigation]						X	
Generally protected B [Medium significance, to be recorded]							
Generally Protected C [Low significance, no further action]							
2.3 Sphere of Significance				High	Medium	Low	
International							
National							
Provincial							
Local					X		
Specific community							
3. IMPACT RATING AND MITIGATION							
3.1 Impact assessment							
APPROXIMATE DISTANCE FROM DEVELOPMENT: 500+ METERS							

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NATURE OF IMPACT: Historical & Scientific			
EXTENT OF IMPACT: Local			
SPECIALIST LEVEL OF CONFIDENCE IN DEGREE OF IMPACT AND SEVERITY: High			
3.2 Impact Significance and Severity			
General assessment of impacts on resource (Refer to Section 7.3.1)		Without Management*	With Management*
	Duration	Permanent: Low	Permanent: Low
	Intensity	Low	Low
	Probability	Improbable	Improbable
	Impact Significance	Low	Negligible
3.3 Direct Impact Rating			
Direct impact on resource	None (the potential development does not adversely or positively affect the heritage resource)		X
	Peripheral / Indirect (the heritage resource or its setting is located in proximity to the footprint of the potential development)		
	Destruction / Direct (the heritage resource or site is physically located within the footprint of the potential development)		
Direct impact rating (Refer to Section 7.3.2) Note that a default "no impact expected" value applies where a heritage resource occurs outside the impact matrix or applicable conservation buffers of the development.			No impact expected.
3.4 Recommended Management* (refer to section 7.3.3)			
Monitoring: Ensure that site is not impacted on.			
Comments on recommended management			
It is necessary that the site be monitored to ensure that heritage resources are not impacted on. If further impact occurs, or is envisaged at any stage of development and operation the following will be required: <ul style="list-style-type: none"> - Documentation of sites. - Phase 2 Specialist Study in order to sample site by means of artefact collection and analysis. - Further desktop study to more accurately ascertain context of sites. - Relevant Permitting from Heritage Resources Authority where applicable. . 			
4. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS			
- National Heritage Resources Act (Act no. 25 of 1999)			

- Site IA01: Possible Iron Age stone terracing.

1. SITE DESCRIPTION							
1.1 General Site Description							
Partially intact sections of stone terracing.							
1.2 Site features / artefacts / Other							
Site Location							
Province / District	Limpopo Province			Map Number	2429BC		
Farm Name	Zaakloof 480 KS			Co-ordinates	S24°23'44.02"	E29°41'43.59"	
Site Type							
Surface sites	X			Caves and rock shelters			
Larger open-air sites				Sealed sites (deposits)			
River deposits				Other			
Site Function							
Living / habitation	X			Kill			
Ceremonial				Burial			
Trading / Barter				Art			
Quarry / Mining / Smelting				Other			
Site Placement							
Valley floor		Hill top		Vlei/swamp		River Mouth	
Dam		River Bank		Slope	X	Plains	

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Other / Comments							
Vegetation							
Riverine forest		Bushveld	X	Savannah		Mountain forest	
Thornveld	X	Grassland	X	Cultivated		Other	
Age Classification							
Stone Age		Early Iron Age		Middle Iron Age		Later Iron Age	X
Historical	X	Other					
Material Culture							
Midden		House Remains		Stone Walling	X	Stone Structures	X
Granary		Grinding Stone (L)		Grinding Stone (U)		Granary Stand	
Metal		Ceramics (Pottery)		Ceramics (Porcelain)		Stone (non-lithic)	
Metal slag		Tuyere		Fauna		Bead (Glass)	
Bead (OES / Shell)		Glass		Lithics		Smelting Residues	
Other:				Other:			
1.3 Site Condition							
Preservation of the site is generally poor as structures have collapsed.							
2. SITE EVALUATION							
2.1 Heritage Value (NHRA, section 2 [3])				High	Medium	Low	
It has importance to the community or pattern of South Africa's history or pre-colonial history.						X	
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.						X	
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.						X	
It is of importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.						X	
It has importance in exhibiting particular aesthetic characteristics valued by a particular community or cultural group.						X	
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.					X		
It has marked or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).						X	
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.					X		
It has significance through contributing towards the promotion of a local sociocultural identity and can be developed as a tourist destination.						X	
It has significance relating to the history of slavery in South Africa.						X	
It has importance to the wider understanding of temporal changes within cultural landscapes, settlement patterns and human occupation.						X	
2.2 Field Register Rating							
National/Grade 1 [should be registered, retained]							
Provincial/Grade 2 [should be registered, retained]							
Local/Grade 3A [should be registered, mitigation not advised]							
Local/Grade 3B [High significance; mitigation, partly retained]							
Generally Protected A [High/Medium significance, mitigation]							
Generally protected B [Medium significance, to be recorded]						X	
Generally Protected C [Low significance, no further action]							
2.3 Sphere of Significance				High	Medium	Low	
International							
National							

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Provincial				
Local			X	
Specific community				
3. IMPACT RATING AND MITIGATION				
3.1 Impact assessment				
APPROXIMATE DISTANCE FROM DEVELOPMENT: 500+ METERS				
NATURE OF IMPACT: Historical & Scientific				
EXTENT OF IMPACT: Local				
SPECIALIST LEVEL OF CONFIDENCE IN DEGREE OF IMPACT AND SEVERITY: High				
3.2 Impact Significance and Severity				
General assessment of impacts on resource (Refer to Section 7.3.1)		Without Management*	With Management*	
	Duration	Permanent: Low	Permanent: Low	
	Intensity	Low	Low	
	Probability	Improbable	Improbable	
	Impact Significance	Low	Negligible	
3.3 Direct Impact Rating				
Direct impact on resource	None (the potential development does not adversely or positively affect the heritage resource)			X
	Peripheral / Indirect (the heritage resource or its setting is located in proximity to the footprint of the potential development)			
	Destruction / Direct (the heritage resource or site is physically located within the footprint of the potential development)			
Direct impact rating (Refer to Section 7.3.2) Note that a default "no impact expected" value applies where a heritage resource occurs outside the impact matrix or applicable conservation buffers of the development.				No impact expected.
3.4 Recommended Management* (refer to section 7.3.3)				
Monitoring: Ensure that site is not impacted on.				
Comments on recommended management				
It is necessary that the site be monitored to ensure that heritage resources are not impacted on. If further impact occurs, or is envisaged at any stage of development and operation the following will be required: <ul style="list-style-type: none"> - Documentation of sites. - Further desktop study to more accurately ascertain context of sites. - Relevant Permitting from Heritage Resources Authority where applicable. . 				
4. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS				
- National Heritage Resources Act (Act no. 25 of 1999)				

- Site IA02: Possible Earlier Iron Age occupation site.

1. SITE DESCRIPTION				
1.1 General Site Description				
MSA lithic scatters				
1.2 Site features / artefacts / Other				
Site Location				
Province / District	Limpopo Province	Map Number	2429BC	
Farm Name	Spelonk 478 KS	Co-ordinates	S24°21'55.44"	E29°43'44.66"
Site Type				
Surface sites	X	Caves and rock shelters		
Larger open-air sites		Sealed sites (deposits)		
River deposits		Other		
Site Function				
Living / habitation	X	Kill		
Ceremonial		Burial		

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Trading / Barter		Art	
Quarry / Mining / Smelting		Other	
Site Placement			
Valley floor		Hill top	
		Vlei/swamp	
Dam		River Bank	
		Slope	
Other / Comments			
Vegetation			
Riverine forest		Bushveld	X
		Savannah	
Thornveld	X	Grassland	X
		Cultivated	
		Other	
Age Classification			
Stone Age		Early Iron Age	X
		Middle Iron Age	
Historical		Other	
Material Culture			
Midden		House Remains	X
		Stone Walling	
Granary		Grinding Stone (L)	X
		Grinding Stone (U)	X
Metal		Ceramics (Pottery)	X
		Ceramics (Porcelain)	
Metal slag		Tuyere	
		Fauna	
Bead (OES / Shell)		Glass	
		Lithics	
Other:		Other:	
1.3 Site Condition			
Site preservation is poor and density of artefacts is low.			
2. SITE EVALUATION			
2.1 Heritage Value (NHRA, section 2 [3])	High	Medium	Low
It has importance to the community or pattern of South Africa's history or pre-colonial history.		X	
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.			X
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.		X	
It is of importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.		X	
It has importance in exhibiting particular aesthetic characteristics valued by a particular community or cultural group.		X	
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.		X	
It has marked or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).		X	
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.		X	
It has significance through contributing towards the promotion of a local sociocultural identity and can be developed as a tourist destination.			X
It has significance relating to the history of slavery in South Africa.			X
It has importance to the wider understanding of temporal changes within cultural landscapes, settlement patterns and human occupation.		X	
2.2 Field Register Rating			
National/Grade 1 [should be registered, retained]			
Provincial/Grade 2 [should be registered, retained]			
Local/Grade 3A [should be registered, mitigation not advised]			
Local/Grade 3B [High significance; mitigation, partly retained]			
Generally Protected A [High/Medium significance, mitigation]	X		

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Generally protected B [Medium significance, to be recorded]				
Generally Protected C [Low significance, no further action]				
2.3 Sphere of Significance	High	Medium	Low	
International				
National				
Provincial				
Local		X		
Specific community				
3. IMPACT RATING AND MITIGATION				
3.1 Impact assessment				
APPROXIMATE DISTANCE FROM DEVELOPMENT: 500+ METERS				
NATURE OF IMPACT: Historical & Scientific				
EXTENT OF IMPACT: Local				
SPECIALIST LEVEL OF CONFIDENCE IN DEGREE OF IMPACT AND SEVERITY: High				
3.2 Impact Significance and Severity				
General assessment of impacts on resource (Refer to Section 7.3.1)		Without Management*	With Management*	
	Duration	Permanent: Low	Permanent: Low	
	Intensity	Low	Low	
	Probability	Improbable	Improbable	
	Impact Significance	Low	Negligible	
3.3 Direct Impact Rating				
Direct impact on resource	None (the potential development does not adversely or positively affect the heritage resource)			X
	Peripheral / Indirect (the heritage resource or its setting is located in proximity to the footprint of the potential development)			
	Destruction / Direct (the heritage resource or site is physically located within the footprint of the potential development)			
Direct impact rating (Refer to Section 7.3.2) Note that a default "no impact expected" value applies where a heritage resource occurs outside the impact matrix or applicable conservation buffers of the development.				No impact expected.
3.4 Recommended Management* (refer to section 7.3.3)				
Monitoring: Ensure that site is not impacted on.				
Comments on recommended management				
It is necessary that the site be monitored to ensure that heritage resources are not impacted on. If further impact occurs, or is envisaged at any stage of development and operation the following will be required:				
<ul style="list-style-type: none"> - Documentation of sites. - Phase 2 Specialist Study in order to sample site by means of artefact collection and analysis. - Further desktop study to more accurately ascertain context of sites. - Relevant Permitting from Heritage Resources Authority where applicable. . 				
4. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS				
- National Heritage Resources Act (Act no. 25 of 1999)				

- Site IA03: Possible Iron Age occupation site.

1. SITE DESCRIPTION				
1.1 General Site Description				
Possible Iron Age occupation site consisting of stone enclosure and large cattle dung deposit.				
1.2 Site features / artefacts / Other				
Site Location				
Province / District	Limpopo Province	Map Number	2429BC	
Farm Name	Spelonk 478 KS	Co-ordinates	S24°22'04.92"	E29°43'42.03

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Site Type							
Surface sites	X		Caves and rock shelters				
Larger open-air sites	X		Sealed sites (deposits)				
River deposits			Other				
Site Function							
Living / habitation	X		Kill				
Ceremonial			Burial				
Trading / Barter			Art				
Quarry / Mining / Smelting			Other				
Site Placement							
Valley floor		Hill top		Vlei/swamp		River Mouth	
Dam		River Bank		Slope		Plains	X
Other / Comments							
Vegetation							
Riverine forest		Bushveld	X	Savannah		Mountain forest	
Thornveld	X	Grassland	X	Cultivated		Other	
Age Classification							
Stone Age		Early Iron Age		Middle Iron Age		Later Iron Age	X
Historical	X	Other					
Material Culture							
Midden		House Remains		Stone Walling	X	Stone Structures	X
Granary		Grinding Stone (L)	X	Grinding Stone (U)	X	Granary Stand	
Metal	X	Ceramics (Pottery)		Ceramics (Porcelain)		Stone (non-lithic)	
Metal slag		Tuyere		Fauna	X	Bead (Glass)	
Bead (OES / Shell)		Glass	X	Lithics		Smelting Residues	
Other:				Other:			
1.3 Site Condition							
The condition of the site is fair as stone enclosure is largely intact.							
2. SITE EVALUATION							
2.1 Heritage Value (NHRA, section 2 [3])				High	Medium	Low	
It has importance to the community or pattern of South Africa's history or pre-colonial history.					X		
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.						X	
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.					X		
It is of importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.						X	
It has importance in exhibiting particular aesthetic characteristics valued by a particular community or cultural group.						X	
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.					X		
It has marked or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).					X		
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.						X	
It has significance through contributing towards the promotion of a local sociocultural identity and can be developed as a tourist destination.						X	
It has significance relating to the history of slavery in South Africa.						X	
It has importance to the wider understanding of temporal changes within cultural landscapes, settlement					X		

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patterns and human occupation.			
2.2 Field Register Rating			
National/Grade 1 [should be registered, retained]			
Provincial/Grade 2 [should be registered, retained]			
Local/Grade 3A [should be registered, mitigation not advised]			
Local/Grade 3B [High significance; mitigation, partly retained]			
Generally Protected A [High/Medium significance, mitigation]			
Generally protected B [Medium significance, to be recorded]			X
Generally Protected C [Low significance, no further action]			
2.3 Sphere of Significance		High	Medium
International			
National			
Provincial			
Local			X
Specific community			
3. IMPACT RATING AND MITIGATION			
3.1 Impact assessment			
APPROXIMATE DISTANCE FROM DEVELOPMENT: 500+ 00METERS			
NATURE OF IMPACT: Historical & Scientific			
EXTENT OF IMPACT: Local			
SPECIALIST LEVEL OF CONFIDENCE IN DEGREE OF IMPACT AND SEVERITY: High			
3.2 Impact Significance and Severity			
General assessment of impacts on resource (Refer to Section 7.3.1)		Without Management*	With Management*
	Duration	Permanent: Low	Permanent: Low
	Intensity	Low	Low
	Probability	Improbable	Improbable
	Impact Significance	Low	Negligible
3.3 Direct Impact Rating			
Direct impact on resource	None (the potential development does not adversely or positively affect the heritage resource)		X
	Peripheral / Indirect (the heritage resource or its setting is located in proximity to the footprint of the potential development)		
	Destruction / Direct (the heritage resource or site is physically located within the footprint of the potential development)		
Direct impact rating (Refer to Section 7.3.2) Note that a default "no impact expected" value applies where a heritage resource occurs outside the impact matrix or applicable conservation buffers of the development.		No impact expected.	
3.4 Recommended Management* (refer to section 7.3.3)			
Monitoring: Ensure that site is not impacted on.			
Comments on recommended management			
It is necessary that the site be monitored to ensure that heritage resources are not impacted on. If further impact occurs, or is envisaged at any stage of development and operation the following will be required:			
<ul style="list-style-type: none"> - Documentation of sites. - Further desktop study to more accurately ascertain context of sites. - Relevant Permitting from Heritage Resources Authority where applicable. . 			
4. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS			
- National Heritage Resources Act (Act no. 25 of 1999)			

- Site IA04: Iron Age occupation site.

1. SITE DESCRIPTION
1.1 General Site Description

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Large Iron Age occupation site							
1.2 Site features / artefacts / Other							
Site Location							
Province / District	Limpopo Province			Map Number	2429BC		
Farm Name	Spelonk 478 KS			Co-ordinates	S24°22'43.32"	E29°43'57.89"	
Site Type							
Surface sites	X			Caves and rock shelters			
Larger open-air sites	X			Sealed sites (deposits)			
River deposits				Other			
Site Function							
Living / habitation	X			Kill			
Ceremonial				Burial			
Trading / Barter				Art			
Quarry / Mining / Smelting				Other			
Site Placement							
Valley floor		Hill top		Vlei/swamp		River Mouth	
Dam		River Bank	X	Slope		Plains	X
Other / Comments							
Vegetation							
Riverine forest		Bushveld	X	Savannah		Mountain forest	
Thornveld	X	Grassland	X	Cultivated		Other	
Age Classification							
Stone Age		Early Iron Age		Middle Iron Age		Later Iron Age	X
Historical		Other					
Material Culture							
Midden	X	House Remains	X	Stone Walling	X	Stone Structures	X
Granary		Grinding Stone (L)	X	Grinding Stone (U)	X	Granary Stand	X
Metal	X	Ceramics (Potter)	X	Ceramics (Porcelain)		Stone (non-lithic)	X
Metal slag		Tuyere		Fauna	X	Bead (Glass)	
Bead (OES / Shell)		Glass		Lithics	X	Smelting Residues	
Other:				Other:			
1.3 Site Condition							
The condition of the site is relatively good and deposits seem to be largely intact.							
2. SITE EVALUATION							
2.1 Heritage Value (NHRA, section 2 [3])				High	Medium	Low	
It has importance to the community or pattern of South Africa's history or pre-colonial history.					X		
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.						X	
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.					X		
It is of importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.					X		
It has importance in exhibiting particular aesthetic characteristics valued by a particular community or cultural group.					X		
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.					X		
It has marked or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).					X		

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It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.		X	
It has significance through contributing towards the promotion of a local sociocultural identity and can be developed as a tourist destination.			X
It has significance relating to the history of slavery in South Africa.			X
It has importance to the wider understanding of temporal changes within cultural landscapes, settlement patterns and human occupation.		X	

2.2 Field Register Rating	
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National/Grade 1 [should be registered, retained]	
Provincial/Grade 2 [should be registered, retained]	
Local/Grade 3A [should be registered, mitigation not advised]	
Local/Grade 3B [High significance; mitigation, partly retained]	
Generally Protected A [High/Medium significance, mitigation]	X
Generally protected B [Medium significance, to be recorded]	
Generally Protected C [Low significance, no further action]	

2.3 Sphere of Significance	High	Medium	Low
International			
National			
Provincial			
Local		X	
Specific community			

3. IMPACT RATING AND MITIGATION

3.1 Impact assessment

APPROXIMATE DISTANCE FROM DEVELOPMENT: 500+ METERS

NATURE OF IMPACT: Historical & Scientific

EXTENT OF IMPACT: Local

SPECIALIST LEVEL OF CONFIDENCE IN DEGREE OF IMPACT AND SEVERITY: High

3.2 Impact Significance and Severity		
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	Without Management*	With Management*
General assessment of impacts on resource (Refer to Section 7.3.1)	Duration	Permanent: Low
	Intensity	Low
	Probability	Improbable
	Impact Significance	Low

3.3 Direct Impact Rating

Direct impact on resource	None (the potential development does not adversely or positively affect the heritage resource)	X
	Peripheral / Indirect (the heritage resource or its setting is located in proximity to the footprint of the potential development)	
	Destruction / Direct (the heritage resource or site is physically located within the footprint of the potential development)	

Direct impact rating (Refer to Section 7.3.2) Note that a default "no impact expected" value applies where a heritage resource occurs outside the impact matrix or applicable conservation buffers of the development.	No impact expected.
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3.4 Recommended Management* (refer to section 7.3.3)
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Monitoring: Ensure that site is not impacted on.

Comments on recommended management
It is necessary that the site be monitored to ensure that heritage resources are not impacted on. If further impact occurs, or is envisaged at any stage of development and operation the following will be required: <ul style="list-style-type: none"> - Documentation of sites. - Phase 2 Specialist Study in order to sample site by means of artefact collection and analysis. - Further desktop study to more accurately ascertain context of sites. - Relevant Permitting from Heritage Resources Authority where applicable. .

4. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS
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- Site IA05: Iron Age occupation site.

1. SITE DESCRIPTION							
1.1 General Site Description							
Large Iron Age occupation site							
1.2 Site features / artefacts / Other							
Site Location							
Province / District	Limpopo Province			Map Number	2429BC		
Farm Name	Olifantspoort 479 KS			Co-ordinates	S24°23'04.24"		E29°44'00.41"
Site Type							
Surface sites	X			Caves and rock shelters			
Larger open-air sites	X			Sealed sites (deposits)			
River deposits				Other			
Site Function							
Living / habitation	X			Kill			
Ceremonial				Burial			
Trading / Barter				Art			
Quarry / Mining / Smelting				Other			
Site Placement							
Valley floor		Hill top		Vlei/swamp		River Mouth	
Dam		River Bank	X	Slope		Plains	X
Other / Comments							
Vegetation							
Riverine forest		Bushveld	X	Savannah		Mountain forest	
Thornveld	X	Grassland	X	Cultivated	X	Other	
Age Classification							
Stone Age		Early Iron Age		Middle Iron Age		Later Iron Age	X
Historical		Other					
Material Culture							
Midden	X	House Remains	X	Stone Walling	X	Stone Structures	X
Granary		Grinding Stone (L)	X	Grinding Stone (U)	X	Granary Stand	X
Metal		Ceramics (Potter)	X	Ceramics (Porcelain)		Stone (non-lithic)	X
Metal slag		Tuyere		Fauna	X	Bead (Glass)	
Bead (OES / Shell)		Glass	X	Lithics	X	Smelting Residues	
Other:							
Other:							
1.3 Site Condition							
The condition of the site has been greatly compromised by mining and exploration activities in the area.							
2. SITE EVALUATION							
2.1 Heritage Value (NHRA, section 2 [3])				High	Medium	Low	
It has importance to the community or pattern of South Africa's history or pre-colonial history.					X		
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.						X	
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.					X		
It is of importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.					X		

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It has importance in exhibiting particular aesthetic characteristics valued by a particular community or cultural group.		X			
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.		X			
It has marked or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).		X			
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.		X			
It has significance through contributing towards the promotion of a local sociocultural identity and can be developed as a tourist destination.			X		
It has significance relating to the history of slavery in South Africa.			X		
It has importance to the wider understanding of temporal changes within cultural landscapes, settlement patterns and human occupation.		X			
2.2 Field Register Rating					
National/Grade 1 [should be registered, retained]					
Provincial/Grade 2 [should be registered, retained]					
Local/Grade 3A [should be registered, mitigation not advised]					
Local/Grade 3B [High significance; mitigation, partly retained]					
Generally Protected A [High/Medium significance, mitigation]			X		
Generally protected B [Medium significance, to be recorded]					
Generally Protected C [Low significance, no further action]					
2.3 Sphere of Significance	High	Medium	Low		
International					
National					
Provincial					
Local		X			
Specific community					
3. IMPACT RATING AND MITIGATION					
3.1 Impact assessment					
APPROXIMATE DISTANCE FROM DEVELOPMENT: 500+ METERS					
NATURE OF IMPACT: Historical & Scientific					
EXTENT OF IMPACT: Local					
SPECIALIST LEVEL OF CONFIDENCE IN DEGREE OF IMPACT AND SEVERITY: High					
3.2 Impact Significance and Severity					
General assessment of impacts on resource (Refer to Section 7.3.1)		Without Management*	With Management*		
	Duration	Permanent: Low	Permanent: Low		
	Intensity	Low	Low		
	Probability	Improbable	Improbable		
	Impact Significance	Low	Negligible		
3.3 Direct Impact Rating					
Direct impact on resource	None (the potential development does not adversely or positively affect the heritage resource)		X		
	Peripheral / Indirect (the heritage resource or its setting is located in proximity to the footprint of the potential development)				
	Destruction / Direct (the heritage resource or site is physically located within the footprint of the potential development)				
Direct impact rating (Refer to Section 7.3.2)					
Note that a default "no impact expected" value applies where a heritage resource occurs outside the impact matrix or applicable conservation buffers of the development.		No impact expected.			
3.4 Recommended Management* (refer to section 7.3.3)					
Monitoring: Ensure that site is not further altered and impacted on.					
Comments on recommended management					

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It is necessary that the site be monitored to ensure that further alteration not occur, and that heritage resources are not impacted on. If further impact occurs, or is envisaged at any stage of development and operation the following will be required:

- Documentation of sites.
- Phase 2 Specialist Study in order to sample site by means of artefact collection and analysis.
- Further desktop study to more accurately ascertain context of sites.
- Relevant Permitting from Heritage Resources Authority where applicable. .

4. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS

- National Heritage Resources Act (Act no. 25 of 1999)

- Sites HP01, HP02, HP03, HP04, HP05: Ruined farmsteads, middens and stone stock enclosures.

1. SITE DESCRIPTION

1.1 General Site Description

Recent farmsteads and associated buildings, middens and stock enclosures.

1.2 Site features / artefacts / Other

Site Location

Province / District	Limpopo Province	Map Number	2429BC
Farm Name	Zaakloof 480 KS Spelonk 478 KS Olifantspoort 479 KS	Co-ordinates	S24°23'13.90" S24°22'57.79" S24°22'39.72" S24°21'44.69" S24°24'4.70" E29°41'48.70" E29°42'42.55" E29°43'28.40" E29°44'18.03" E29°43'36.70"

Site Type

Surface sites	X	Caves and rock shelters	
Larger open-air sites		Sealed sites (deposits)	
River deposits		Other	

Site Function

Living / habitation	X	Kill	
Ceremonial		Burial	
Trading / Barter		Art	
Quarry / Mining / Smelting		Other	

Site Placement

Valley floor		Hill top		Vlei/swamp		River Mouth	
Dam		River Bank		Slope	X	Plains	X
Other / Comments							

Vegetation

Riverine forest		Bushveld	X	Savannah		Mountain forest	
Thornveld	X	Grassland	X	Cultivated	X	Other	

Age Classification

Stone Age		Early Iron Age		Middle Iron Age		Later Iron Age	
Historical	X	Other	X - recent				

Material Culture

Midden	X	House Remains	X	Stone Walling	X	Stone Structures	X
Granary		Grinding Stone (L)	X	Grinding Stone (U)	X	Granary Stand	
Metal	X	Ceramics (Potter)		Ceramics (Porcelain)	X	Stone (non-lithic)	X
Metal slag		Tuyere		Fauna	X	Bead (Glass)	
Bead (OES / Shell)		Glass	X	Lithics		Smelting Residues	
Other: X - Plastic				Other:			

1.3 Site Condition

Lesego Platinum Mine: Archaeological Impact Assessment Report

The condition of farmstead buildings is poor as structures have collapsed and degraded.

2. SITE EVALUATION

2.1 Heritage Value (NHRA, section 2 [3])	High	Medium	Low
It has importance to the community or pattern of South Africa's history or pre-colonial history.		X	
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.			X
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.			X
It is of importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.		X	
It has importance in exhibiting particular aesthetic characteristics valued by a particular community or cultural group.			X
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.			X
It has marked or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).			X
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.			X
It has significance through contributing towards the promotion of a local sociocultural identity and can be developed as a tourist destination.			X
It has significance relating to the history of slavery in South Africa.			X
It has importance to the wider understanding of temporal changes within cultural landscapes, settlement patterns and human occupation.		X	

2.2 Field Register Rating

National/Grade 1 [should be registered, retained]	
Provincial/Grade 2 [should be registered, retained]	
Local/Grade 3A [should be registered, mitigation not advised]	
Local/Grade 3B [High significance; mitigation, partly retained]	
Generally Protected A [High/Medium significance, mitigation]	
Generally protected B [Medium significance, to be recorded]	X
Generally Protected C [Low significance, no further action]	

2.3 Sphere of Significance	High	Medium	Low
International			
National			
Provincial			
Local		X	
Specific community			

3. IMPACT RATING AND MITIGATION

3.1 Impact assessment

APPROXIMATE DISTANCE FROM DEVELOPMENT: 500 – 1000 METERS

NATURE OF IMPACT: Historical & Scientific

EXTENT OF IMPACT: Local

SPECIALIST LEVEL OF CONFIDENCE IN DEGREE OF IMPACT AND SEVERITY: High

3.2 Impact Significance and Severity

General assessment of impacts on resource (Refer to Section 7.3.1)		Without Management*	With Management*
	Duration	Permanent: Low	Permanent: Low
	Intensity	Low	Low
	Probability	Improbable	Improbable
	Impact Significance	Low	Negligible

3.3 Direct Impact Rating

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Direct impact on resource	None (the potential development does not adversely or positively affect the heritage resource)	X
	Peripheral / Indirect (the heritage resource or its setting is located in proximity to the footprint of the potential development)	
	Destruction / Direct (the heritage resource or site is physically located within the footprint of the potential development)	
Direct impact rating (Refer to Section 7.3.2) Note that a default "no impact expected" value applies where a heritage resource occurs outside the impact matrix or applicable conservation buffers of the development.		No impact expected.
3.4 Recommended Management* (refer to section 7.3.3)		
Monitoring: Ensure that site is not impacted on.		
Comments on recommended management		
It is necessary that the site be monitored to ensure that heritage resources are not impacted on. If further impact occurs, or is envisaged at any stage of development and operation the following will be required: <ul style="list-style-type: none"> - Documentation of sites. - Further desktop study and community consultation to more accurately ascertain context of sites. - Relevant Permitting from Heritage Resources Authority where applicable. . 		
4. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS		
<ul style="list-style-type: none"> - National Heritage Resources Act (Act no. 25 of 1999) - Local and regional provisions, laws and by-laws - 		

- Site HP06: Ruined farmsteads, middens and stone stock enclosures.

1. SITE DESCRIPTION							
1.1 General Site Description							
Recent farmsteads and associated buildings, middens and stock enclosures.							
1.2 Site features / artefacts / Other							
Site Location							
Province / District	Limpopo Province			Map Number	2429BC		
Farm Name	Zaakloof 480 KS			Co-ordinates	S24°23'25.02"	E29°42'50.04"	
Site Type							
Surface sites	X			Caves and rock shelters			
Larger open-air sites				Sealed sites (deposits)			
River deposits				Other			
Site Function							
Living / habitation	X			Kill			
Ceremonial				Burial			
Trading / Barter				Art			
Quarry / Mining / Smelting				Other			
Site Placement							
Valley floor		Hill top		Vlei/swamp		River Mouth	
Dam		River Bank		Slope	X	Plains	X
Other / Comments							
Vegetation							
Riverine forest		Bushveld	X	Savannah		Mountain forest	
Thornveld	X	Grassland	X	Cultivated	X	Other	
Age Classification							
Stone Age		Early Iron Age		Middle Iron Age		Later Iron Age	
Historical	X	Other	X - recent				
Material Culture							
Midden	X	House Remains	X	Stone Walling	X	Stone Structures	X

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Granary		Grinding Stone (L)	X	Grinding Stone (U)	X	Granary Stand	
Metal	X	Ceramics (Potter)		Ceramics (Porcelain)	X	Stone (non-lithic)	X
Metal slag		Tuyere		Fauna	X	Bead (Glass)	
Bead (OES / Shell)		Glass	X	Lithics		Smelting Residues	
Other: X - Plastic				Other:			

1.3 Site Condition

The condition of farmstead buildings is poor as structures have collapsed and degraded.

2. SITE EVALUATION

2.1 Heritage Value (NHRA, section 2 [3])	High	Medium	Low
It has importance to the community or pattern of South Africa's history or pre-colonial history.		X	
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.			X
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.			X
It is of importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.		X	
It has importance in exhibiting particular aesthetic characteristics valued by a particular community or cultural group.			X
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.			X
It has marked or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).			X
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.			X
It has significance through contributing towards the promotion of a local sociocultural identity and can be developed as a tourist destination.			X
It has significance relating to the history of slavery in South Africa.			X
It has importance to the wider understanding of temporal changes within cultural landscapes, settlement patterns and human occupation.		X	

2.2 Field Register Rating

National/Grade 1 [should be registered, retained]	
Provincial/Grade 2 [should be registered, retained]	
Local/Grade 3A [should be registered, mitigation not advised]	
Local/Grade 3B [High significance; mitigation, partly retained]	
Generally Protected A [High/Medium significance, mitigation]	
Generally protected B [Medium significance, to be recorded]	X
Generally Protected C [Low significance, no further action]	

2.3 Sphere of Significance	High	Medium	Low
International			
National			
Provincial			
Local		X	
Specific community			

3. IMPACT RATING AND MITIGATION

3.1 Impact assessment

APPROXIMATE DISTANCE FROM DEVELOPMENT: 0 – 100 METERS

NATURE OF IMPACT: Historical & Scientific

EXTENT OF IMPACT: Local

SPECIALIST LEVEL OF CONFIDENCE IN DEGREE OF IMPACT AND SEVERITY: High

3.2 Impact Significance and Severity

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General assessment of impacts on resource (Refer to Section 7.3.1)		Without Management*	With Management*
	Duration	Permanent: Medium	Permanent: Low
	Intensity	High	Medium
	Probability	Highly Probable	Probable
	Impact Significance	Medium	Negligible
3.3 Direct Impact Rating			
Direct impact on resource	None (the potential development does not adversely or positively affect the heritage resource)		
	Peripheral / Indirect (the heritage resource or its setting is located in proximity to the footprint of the potential development)		X
	Destruction / Direct (the heritage resource or site is physically located within the footprint of the potential development)		
Direct impact rating (Refer to Section 7.3.2) Note that a default “no impact expected” value applies where a heritage resource occurs outside the impact matrix or applicable conservation buffers of the development.		High heritage impact expected.	
3.4 Recommended Management* (refer to section 7.3.3)			
Mitigation			
Comments on recommended management			
It is necessary that the sites be mitigated if impact occurs, or is envisaged at any stage of development and operation The following will be required: <ul style="list-style-type: none">- Documentation of sites.- Further desktop study and community consultation to more accurately ascertain context of sites.- Relevant Permitting from Heritage Resources Authority where applicable. .			
4. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS			
<ul style="list-style-type: none">- National Heritage Resources Act (Act no. 25 of 1999)- Local and regional provisions, laws and by-laws			

- Site BP01: Possible unmarked graves.

1. SITE DESCRIPTION							
1.1 General Site Description							
Cluster of elongated stone heaps							
1.2 Site features / artefacts / Other							
Site Location							
Province / District	Limpopo Province			Map Number	2429BC		
Farm Name	Zaakloof 480 KS			Co-ordinates	S24°23'38.58"	E29°41'40.19"	
Site Type							
Surface sites	X			Caves and rock shelters			
Larger open-air sites				Sealed sites (deposits)			
River deposits				Other			
Site Function							
Living / habitation	X			Kill			
Ceremonial				Burial	X		
Trading / Barter				Art			
Quarry / Mining / Smelting				Other			
Site Placement							
Valley floor		Hill top		Vlei/swamp		River Mouth	
Dam		River Bank	X	Slope		Plains	X
Other / Comments							
Vegetation							
Riverine forest		Bushveld	X	Savannah		Mountain forest	

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Thornveld	X	Grassland	X	Cultivated		Other	
Age Classification							
Stone Age		Early Iron Age		Middle Iron Age		Later Iron Age	
Historical		Other	X – Unknown				
Material Culture							
Midden		House Remains		Stone Walling		Stone Structures	X
Granary		Grinding Stone (L)		Grinding Stone (U)		Granary Stand	
Metal		Ceramics (Pottery)		Ceramics (Porcelain)		Stone (non-lithic)	
Metal slag		Tuyere		Fauna		Bead (Glass)	
Bead (OES / Shell)		Glass		Lithics		Smelting Residues	
Other:				Other:			
1.3 Site Condition							
The site integrity is fair.							
2. SITE EVALUATION							
2.1 Heritage Value (NHRA, section 2 [3])				High	Medium	Low	
It has importance to the community or pattern of South Africa's history or pre-colonial history.					X		
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.				X			
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.					X		
It is of importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.				X			
It has importance in exhibiting particular aesthetic characteristics valued by a particular community or cultural group.						X	
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.						X	
It has marked or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).				X			
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.						X	
It has significance through contributing towards the promotion of a local sociocultural identity and can be developed as a tourist destination.						X	
It has significance relating to the history of slavery in South Africa.						X	
It has importance to the wider understanding of temporal changes within cultural landscapes, settlement patterns and human occupation.					X		
2.2 Field Register Rating							
National/Grade 1 [should be registered, retained]							
Provincial/Grade 2 [should be registered, retained]							
Local/Grade 3A [should be registered, mitigation not advised]							
Local/Grade 3B [High significance; mitigation, partly retained]						X	
Generally Protected A [High/Medium significance, mitigation]							
Generally protected B [Medium significance, to be recorded]						X	
Generally Protected C [Low significance, no further action]							
2.3 Sphere of Significance				High	Medium	Low	
International							
National							
Provincial							
Local				X			
Specific community							
3. IMPACT RATING AND MITIGATION							

Lesego Platinum Mine: Archaeological Impact Assessment Report

3.1 Impact assessment			
APPROXIMATE DISTANCE FROM DEVELOPMENT: 500+ METERS			
NATURE OF IMPACT: Historical, Aesthetic, Social, Scientific, Intrinsic, Associational & Contextual			
EXTENT OF IMPACT: Local			
SPECIALIST LEVEL OF CONFIDENCE IN DEGREE OF IMPACT AND SEVERITY: High			
3.2 Impact Significance and Severity			
General assessment of impacts on resource (Refer to Section 7.3.1)		Without Management*	With Management*
	Duration	Permanent: Low	Permanent: Low
	Intensity	Low	Low
	Probability	Improbable	Improbable
	Impact Significance	Low	Negligible
3.3 Direct Impact Rating			
Direct impact on resource	None (the potential development does not adversely or positively affect the heritage resource)		X
	Peripheral / Indirect (the heritage resource or its setting is located in proximity to the footprint of the potential development)		
	Destruction / Direct (the heritage resource or site is physically located within the footprint of the potential development)		
Direct impact rating (Refer to Section 7.3.2) Note that a default "no impact expected" value applies where a heritage resource occurs outside the impact matrix or applicable conservation buffers of the development.			No heritage impact expected.
3.4 Recommended Management* (refer to section 7.3.3)			
Monitoring: Ensure that burials are not impacted on.			
Comments on recommended management			
It is essential that the site be monitored to ensure that burials are not impacted on. If further impact occurs, or is envisaged at any stage of development and operation the following will be required: <ul style="list-style-type: none"> - Documentation of site. - Exhumation and reburial - Full social consultation. - Possible conservation management and protection measures. - Relevant Permitting from Heritage Resources Authority. 			
4. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS			
<ul style="list-style-type: none"> - Human Tissue Act (Act 65 of 1983 as amended). - Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925) - Ordinance on Excavations (Ordinance no. 12 of 1980) - Local and regional provisions, laws and by-laws - National Heritage Resources Act (Act no. 25 of 1999) - Permit from SAHRA for removal 			

- Site BP02: Recent family cemetery.

1. SITE DESCRIPTION			
1.1 General Site Description			
Family cemetery of recent age.			
1.2 Site features / artefacts / Other			
Site Location			
Province / District	Limpopo Province	Map Number	2429BC
Farm Name	Spelonk 478 KS	Co-ordinates	S24°21'15.87" E29°43'34.32"
Site Type			
Surface sites	X	Caves and rock shelters	
Larger open-air sites		Sealed sites (deposits)	
River deposits		Other	
Site Function			
Living / habitation		Kill	

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Ceremonial		Burial	X		
Trading / Barter		Art			
Quarry / Mining / Smelting		Other			
Site Placement					
Valley floor		Hill top			
Dam		River Bank			
		Slope			
		Vlei/swamp			
		River Mouth			
		Plains	X		
Other / Comments					
Vegetation					
Riverine forest		Bushveld	X		
Thornveld	X	Grassland	X		
		Cultivated	X		
		Mountain forest			
		Other			
Age Classification					
Stone Age		Early Iron Age			
Historical	X	Other	X - Recent		
Material Culture					
Midden		House Remains			
Granary		Grinding Stone (L)			
Metal		Ceramics (Pottery)			
Metal slag		Tuyere			
Bead (OES / Shell)		Glass			
		Stone Walling			
		Grinding Stone (U)			
		Ceramics (Porcelain)			
		Fauna			
		Lithics			
		Stone Structures	X		
		Granary Stand			
		Stone (non-lithic)			
		Bead (Glass)			
		Smelting Residues			
Other: X – grave dressing		Other: X – funeral goods			
1.3 Site Condition					
The site integrity is good as the burials are of recent age.					
2. SITE EVALUATION					
2.1 Heritage Value (NHRA, section 2 [3])	High	Medium	Low		
It has importance to the community or pattern of South Africa's history or pre-colonial history.		X			
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.	X				
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.		X			
It is of importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.	X				
It has importance in exhibiting particular aesthetic characteristics valued by a particular community or cultural group.			X		
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.			X		
It has marked or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).	X				
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.			X		
It has significance through contributing towards the promotion of a local sociocultural identity and can be developed as a tourist destination.			X		
It has significance relating to the history of slavery in South Africa.			X		
It has importance to the wider understanding of temporal changes within cultural landscapes, settlement patterns and human occupation.		X			
2.2 Field Register Rating					
National/Grade 1 [should be registered, retained]					
Provincial/Grade 2 [should be registered, retained]					
Local/Grade 3A [should be registered, mitigation not advised]					
Local/Grade 3B [High significance; mitigation, partly retained]			X		

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Generally Protected A [High/Medium significance, mitigation]				
Generally protected B [Medium significance, to be recorded]				
Generally Protected C [Low significance, no further action]				
2.3 Sphere of Significance		High	Medium	Low
International				
National				
Provincial				
Local		X		
Specific community				
3. IMPACT RATING AND MITIGATION				
3.1 Impact assessment				
APPROXIMATE DISTANCE FROM DEVELOPMENT: 1000+ METERS				
NATURE OF IMPACT: Historical, Aesthetic, Social, Scientific, Intrinsic, Associational & Contextual				
EXTENT OF IMPACT: Local				
SPECIALIST LEVEL OF CONFIDENCE IN DEGREE OF IMPACT AND SEVERITY: High				
3.2 Impact Significance and Severity				
General assessment of impacts on resource (Refer to Section 7.3.1)			Without Management*	With Management*
		Duration	Permanent: Low	Permanent: Low
		Intensity	Low	Low
		Probability	Improbable	Improbable
		Impact Significance	Low	Negligible
3.4 Direct Impact Rating				
Direct impact on resource	None (the potential development does not adversely or positively affect the heritage resource)			X
	Peripheral / Indirect (the heritage resource or its setting is located in proximity to the footprint of the potential development)			
	Destruction / Direct (the heritage resource or site is physically located within the footprint of the potential development)			
Direct impact rating (Refer to Section 7.3.2) Note that a default "no impact expected" value applies where a heritage resource occurs outside the impact matrix or applicable conservation buffers of the development.				No impact expected.
3.3 Recommended Management* (refer to section 7.3.3)				
Monitoring: Ensure that burials are not impacted on.				
Comments on recommended management				
It is essential that the site be monitored to ensure that burials are not impacted on. If further impact occurs, or is envisaged at any stage of development and operation the following will be required: <ul style="list-style-type: none"> - Documentation of site. - Exhumation and reburial - Full social consultation. - Possible conservation management and protection measures. - Relevant Permitting from Heritage Resources Authority. 				
4. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS				
<ul style="list-style-type: none"> - Human Tissue Act (Act 65 of 1983 as amended). - Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925) - Ordinance on Excavations (Ordinance no. 12 of 1980) - Local and regional provisions, laws and by-laws - National Heritage Resources Act (Act no. 25 of 1999) - Permit from SAHRA for removal 				

- Site BP03, BP09: Single marked graves.

1. SITE DESCRIPTION
1.1 General Site Description
Single marked graves at ruined homesteads.

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1.2 Site features / artefacts / Other							
Site Location							
Province / District		Limpopo Province		Map Number		2429BC	
Farm Name		Spelonk 478 KS Zaakloof 480 KS		Co-ordinates		S24°21'47.46" E29°44'16.86" S24°23'14.32" E29°42'46.22"	
Site Type							
Surface sites		X		Caves and rock shelters			
Larger open-air sites				Sealed sites (deposits)			
River deposits				Other			
Site Function							
Living / habitation				Kill			
Ceremonial				Burial		X	
Trading / Barter				Art			
Quarry / Mining / Smelting				Other			
Site Placement							
Valley floor				Hill top			
Dam				River Bank		X	
Other / Comments				Vlei/swamp			
				Slope			
				River Mouth			
				Plains		X	
Vegetation							
Riverine forest				Bushveld		X	
Thornveld		X		Savannah			
				Mountain forest			
				Cultivated		X	
				Other			
Age Classification							
Stone Age				Early Iron Age			
Historical				Middle Iron Age			
				Later Iron Age			
				X – Recent.			
Material Culture							
Midden				House Remains			
Granary				Stone Walling			
				Stone Structures		X	
				Grinding Stone (L)			
				Grinding Stone (U)			
				Granary Stand			
Metal				Ceramics (Pottery)			
				Ceramics (Porcelain)			
				Stone (non-lithic)			
Metal slag				Tuyere			
				Fauna			
				Bead (Glass)			
Bead (OES / Shell)				Glass			
				Lithics			
				Smelting Residues			
Other: X – grave dressing				Other: X – funeral goods			
1.3 Site Condition							
The site integrity is good as the burials are of recent age.							
2. SITE EVALUATION							
2.1 Heritage Value (NHRA, section 2 [3])				High	Medium	Low	
It has importance to the community or pattern of South Africa's history or pre-colonial history.					X		
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.				X			
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.					X		
It is of importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.				X			
It has importance in exhibiting particular aesthetic characteristics valued by a particular community or cultural group.						X	
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.						X	
It has marked or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).				X			

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It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.			X
It has significance through contributing towards the promotion of a local sociocultural identity and can be developed as a tourist destination.			X
It has significance relating to the history of slavery in South Africa.			X
It has importance to the wider understanding of temporal changes within cultural landscapes, settlement patterns and human occupation.		X	

2.2 Field Register Rating	
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National/Grade 1 [should be registered, retained]	
Provincial/Grade 2 [should be registered, retained]	
Local/Grade 3A [should be registered, mitigation not advised]	
Local/Grade 3B [High significance; mitigation, partly retained]	X
Generally Protected A [High/Medium significance, mitigation]	
Generally protected B [Medium significance, to be recorded]	
Generally Protected C [Low significance, no further action]	

2.3 Sphere of Significance	High	Medium	Low
International			
National			
Provincial			
Local	X		
Specific community			

3. IMPACT RATING AND MITIGATION

3.1 Impact assessment

APPROXIMATE DISTANCE FROM DEVELOPMENT: 500+ METERS

NATURE OF IMPACT: Historical, Aesthetic, Social, Scientific, Intrinsic, Associational & Contextual

EXTENT OF IMPACT: Local

SPECIALIST LEVEL OF CONFIDENCE IN DEGREE OF IMPACT AND SEVERITY: High

3.2 Impact Significance and Severity

	Without Management*	With Management*
General assessment of impacts on resource (Refer to Section 7.3.1)	Duration	Permanent: Low
	Intensity	Low
	Probability	Improbable
	Impact Significance	Low

3.3 Direct Impact Rating

Direct impact on resource	None (the potential development does not adversely or positively affect the heritage resource)	X
	Peripheral / Indirect (the heritage resource or its setting is located in proximity to the footprint of the potential development)	
	Destruction / Direct (the heritage resource or site is physically located within the footprint of the potential development)	

Direct impact rating (Refer to Section 7.3.2) Note that a default "no impact expected" value applies where a heritage resource occurs outside the impact matrix or applicable conservation buffers of the development.	No impact expected.
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3.4 Recommended Management* (refer to section 7.3.3)
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Monitoring: Ensure that burials are not impacted on.

Comments on recommended management

It is essential that the site be monitored to ensure that burials are not impacted on. If further impact occurs, or is envisaged at any stage of development and operation the following will be required:

- Documentation of site.
- Exhumation and reburial
- Full social consultation.
- Possible conservation management and protection measures.
- Relevant Permitting from Heritage Resources Authority.

4. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS

- Human Tissue Act (Act 65 of 1983 as amended).
- Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925)
- Ordinance on Excavations (Ordinance no. 12 of 1980)
- Local and regional provisions, laws and by-laws
- National Heritage Resources Act (Act no. 25 of 1999)
- Permit from SAHRA for removal

- Site BP04: Recent family cemetery.

1. SITE DESCRIPTION

1.1 General Site Description

Family cemetery of recent age.

1.2 Site features / artefacts / Other

Site Location

Province / District	Limpopo Province	Map Number	2429BC
Farm Name	Olifantspoort 479 KS	Co-ordinates	S24°24'02.66" E29°43'37.41"

Site Type

Surface sites	X	Caves and rock shelters	
Larger open-air sites		Sealed sites (deposits)	
River deposits		Other	

Site Function

Living / habitation		Kill	
Ceremonial		Burial	X
Trading / Barter		Art	
Quarry / Mining / Smelting		Other	

Site Placement

Valley floor		Hill top		Vlei/swamp		River Mouth	
Dam		River Bank		Slope	X	Plains	X
Other / Comments							

Vegetation

Riverine forest		Bushveld	X	Savannah		Mountain forest	
Thornveld	X	Grassland	X	Cultivated	X	Other	

Age Classification

Stone Age		Early Iron Age		Middle Iron Age		Later Iron Age	
Historical	X	Other	X – Recent.				

Material Culture

Midden		House Remains		Stone Walling		Stone Structures	X
Granary		Grinding Stone (L)		Grinding Stone (U)		Granary Stand	
Metal		Ceramics (Pottery)		Ceramics (Porcelain)		Stone (non-lithic)	
Metal slag		Tuyere		Fauna		Bead (Glass)	
Bead (OES / Shell)		Glass		Lithics		Smelting Residues	
Other:							

1.3 Site Condition

Site preservation is good as the burials are of recent age.

2. SITE EVALUATION

2.1 Heritage Value (NHRA, section 2 [3])	High	Medium	Low
It has importance to the community or pattern of South Africa's history or pre-colonial history.		X	

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It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.	X		
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.		X	
It is of importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.	X		
It has importance in exhibiting particular aesthetic characteristics valued by a particular community or cultural group.			X
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.			X
It has marked or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).	X		
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.			X
It has significance through contributing towards the promotion of a local sociocultural identity and can be developed as a tourist destination.			X
It has significance relating to the history of slavery in South Africa.			X
It has importance to the wider understanding of temporal changes within cultural landscapes, settlement patterns and human occupation.		X	

2.2 Field Register Rating

National/Grade 1 [should be registered, retained]	
Provincial/Grade 2 [should be registered, retained]	
Local/Grade 3A [should be registered, mitigation not advised]	
Local/Grade 3B [High significance; mitigation, partly retained]	X
Generally Protected A [High/Medium significance, mitigation]	
Generally protected B [Medium significance, to be recorded]	
Generally Protected C [Low significance, no further action]	

2.3 Sphere of Significance

	High	Medium	Low
International			
National			
Provincial			
Local	X		
Specific community			

3. IMPACT RATING AND MITIGATION

3.1 Impact assessment

APPROXIMATE DISTANCE FROM DEVELOPMENT: 0 - 100METERS

NATURE OF IMPACT: Historical, Aesthetic, Social, Scientific, Intrinsic, Associational & Contextual

EXTENT OF IMPACT: Local

SPECIALIST LEVEL OF CONFIDENCE IN DEGREE OF IMPACT AND SEVERITY: High

3.2 Impact Significance and Severity

General assessment of impacts on resource (Refer to Section 7.3.1)		Without Management*	With Management*
	Duration	Permanent: High	Permanent: Low
	Intensity	High	Low
	Probability	Definite	Highly Probable
	Impact Significance	High	Low

3.3 Direct Impact Rating

Direct impact on resource	None (the potential development does not adversely or positively affect the heritage resource)	
	Peripheral / Indirect (the heritage resource or its setting is located in proximity to the footprint of the potential development)	
	Destruction / Direct (the heritage resource or site is physically located within the footprint of the potential development)	X
Direct impact rating (Refer to Section 7.3.2)		Very high heritage impact

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Note that a default "no impact expected" value applies where a heritage resource occurs outside the impact matrix or applicable conservation buffers of the development.

expected

3.4 Recommended Management* (refer to section 7.3.3)

Avoidance / Mitigation

Comments on recommended management

If possible, changes to development layout and impact threshold should be considered in order to avoid impact on the burials.

However, if this measure is not plausible, the following mitigation actions would be required:

- Documentation of site.
- Exhumation and reburial
- Full social consultation.
- Possible conservation management and protection measures.
- Relevant Permitting from Heritage Resources Authority.

4. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS

- Human Tissue Act (Act 65 of 1983 as amended).
- Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925)
- Ordinance on Excavations (Ordinance no. 12 of 1980)
- Local and regional provisions, laws and by-laws
- National Heritage Resources Act (Act no. 25 of 1999)
- Permit from SAHRA for removal

- Sites BP05, BP08, BP12: Single marked and unmarked graves.

1. SITE DESCRIPTION

1.1 General Site Description

Single marked and unmarked graves

1.2 Site features / artefacts / Other

Site Location

Province / District	Limpopo Province	Map Number	2429BC
Farm Name	Zaakloof 480 KS	Co-ordinates	S24°24'05.44" S24°23'55.33" S24°24'02.71" E29°42'49.26" E29°42'28.21" E29°43'08.30"

Site Type

Surface sites	X	Caves and rock shelters	
Larger open-air sites		Sealed sites (deposits)	
River deposits		Other	

Site Function

Living / habitation		Kill	
Ceremonial		Burial	X
Trading / Barter		Art	
Quarry / Mining / Smelting		Other	

Site Placement

Valley floor		Hill top		Vlei/swamp		River Mouth	
Dam		River Bank	X	Slope		Plains	X
Other / Comments							

Vegetation

Riverine forest		Bushveld	X	Savannah		Mountain forest	
Thornveld	X	Grassland	X	Cultivated	X	Other	

Age Classification

Stone Age		Early Iron Age		Middle Iron Age		Later Iron Age	
Historical	X	Other	X – Recent.				

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Material Culture							
Midden		House Remains		Stone Walling		Stone Structures	X
Granary		Grinding Stone (L)		Grinding Stone (U)		Granary Stand	
Metal		Ceramics (Pottery)		Ceramics (Porcelain)		Stone (non-lithic)	
Metal slag		Tuyere		Fauna		Bead (Glass)	
Bead (OES / Shell)		Glass		Lithics		Smelting Residues	
Other: X – grave dressing				Other: X – funeral goods			
1.3 Site Condition							
Site preservation is good as the burials are of recent age.							
2. SITE EVALUATION							
2.1 Heritage Value (NHRA, section 2 [3])				High	Medium	Low	
It has importance to the community or pattern of South Africa's history or pre-colonial history.					X		
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.				X			
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.					X		
It is of importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.				X			
It has importance in exhibiting particular aesthetic characteristics valued by a particular community or cultural group.						X	
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.						X	
It has marked or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).				X			
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.						X	
It has significance through contributing towards the promotion of a local sociocultural identity and can be developed as a tourist destination.						X	
It has significance relating to the history of slavery in South Africa.						X	
It has importance to the wider understanding of temporal changes within cultural landscapes, settlement patterns and human occupation.					X		
2.2 Field Register Rating							
National/Grade 1 [should be registered, retained]							
Provincial/Grade 2 [should be registered, retained]							
Local/Grade 3A [should be registered, mitigation not advised]							
Local/Grade 3B [High significance; mitigation, partly retained]							X
Generally Protected A [High/Medium significance, mitigation]							
Generally protected B [Medium significance, to be recorded]							
Generally Protected C [Low significance, no further action]							
2.3 Sphere of Significance				High	Medium	Low	
International							
National							
Provincial							
Local				X			
Specific community							
3. IMPACT RATING AND MITIGATION							
3.1 Impact assessment							
APPROXIMATE DISTANCE FROM DEVELOPMENT: 0 - 100METERS							
NATURE OF IMPACT: Historical, Aesthetic, Social, Scientific, Intrinsic, Associational & Contextual							
EXTENT OF IMPACT: Local							

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SPECIALIST LEVEL OF CONFIDENCE IN DEGREE OF IMPACT AND SEVERITY: High

3.2 Impact Significance and Severity

General assessment of impacts on resource (Refer to Section 7.3.1)		Without Management*	With Management*
	Duration	Permanent: High	Permanent: Low
	Intensity	High	Low
	Probability	Definite	Definite
	Impact Significance	High	Low

3.3 Direct Impact Rating

Direct impact on resource	None (the potential development does not adversely or positively affect the heritage resource)	
	Peripheral / Indirect (the heritage resource or its setting is located in proximity to the footprint of the potential development)	
	Destruction / Direct (the heritage resource or site is physically located within the footprint of the potential development)	X

Direct impact rating (Refer to Section 7.3.2)

Note that a default "no impact expected" value applies where a heritage resource occurs outside the impact matrix or applicable conservation buffers of the development.

Very high heritage impact expected

3.4 Recommended Management* (refer to section 7.3.3)

Mitigation

Comments on recommended management

If impact is envisaged the following mitigation measures will be required:

- Documentation of site.
- Exhumation and reburial
- Full social consultation.
- Possible conservation management and protection measures.
- Relevant Permitting from Heritage Resources Authority.

4. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS

- Human Tissue Act (Act 65 of 1983 as amended).
- Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925)
- Ordinance on Excavations (Ordinance no. 12 of 1980)
- Local and regional provisions, laws and by-laws
- National Heritage Resources Act (Act no. 25 of 1999)
- Permit from SAHRA for removal

- Site BP06: Recent family cemetery.

1. SITE DESCRIPTION

1.1 General Site Description

6 Graves of which 3 have marble grave dressings (dilapidated) and the remaining graves are indicated by stone piles.

1.2 Site features / artefacts / Other

Site Location

Province / District	Limpopo Province	Map Number	2429BC
Farm Name	Zaakloof 480 KS	Co-ordinates	S24°24'06.04" E29°42'48.65"

Site Type

Surface sites	X	Caves and rock shelters	
Larger open-air sites	X	Sealed sites (deposits)	
River deposits		Other	

Site Function

Living / habitation		Kill	
Ceremonial		Burial	X
Trading / Barter		Art	
Quarry / Mining / Smelting		Other	

Site Placement

Valley floor		Hill top		Vlei/swamp		River Mouth	
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Dam		River Bank		Slope		Plains	X
Other / Comments							
Vegetation							
Riverine forest		Bushveld	X	Savannah		Mountain forest	
Thornveld	X	Grassland	X	Cultivated	X	Other	
Age Classification							
Stone Age		Early Iron Age		Middle Iron Age		Later Iron Age	
Historical	X	Other	X - Recent				
Material Culture							
Midden		House Remains		Stone Walling		Stone Structures	
Granary		Grinding Stone (L)		Grinding Stone (U)		Granary Stand	
Metal		Ceramics (Pottery)		Ceramics (Porcelain)		Stone (non-lithic)	
Metal slag		Tuyere		Fauna		Bead (Glass)	
Bead (OES / Shell)		Glass		Lithics	X	Smelting Residues	
Other: X – grave dressing			Other: X – funeral goods				
1.3 Site Condition							
Site preservation is good as the burials are of recent age.							
2. SITE EVALUATION							
2.1 Heritage Value (NHRA, section 2 [3])				High	Medium	Low	
It has importance to the community or pattern of South Africa's history or pre-colonial history.					X		
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.				X			
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.					X		
It is of importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.				X			
It has importance in exhibiting particular aesthetic characteristics valued by a particular community or cultural group.						X	
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.						X	
It has marked or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).				X			
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.						X	
It has significance through contributing towards the promotion of a local sociocultural identity and can be developed as a tourist destination.						X	
It has significance relating to the history of slavery in South Africa.						X	
It has importance to the wider understanding of temporal changes within cultural landscapes, settlement patterns and human occupation.					X		
2.2 Field Register Rating							
National/Grade 1 [should be registered, retained]							
Provincial/Grade 2 [should be registered, retained]							
Local/Grade 3A [should be registered, mitigation not advised]							
Local/Grade 3B [High significance; mitigation, partly retained]						X	
Generally Protected A [High/Medium significance, mitigation]							
Generally protected B [Medium significance, to be recorded]							
Generally Protected C [Low significance, no further action]							
2.3 Sphere of Significance				High	Medium	Low	
International							

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National			
Provincial			
Local	X		
Specific community			
3. IMPACT RATING AND MITIGATION			
3.1 Impact assessment			
APPROXIMATE DISTANCE FROM DEVELOPMENT: 0 - 100METERS			
NATURE OF IMPACT: Historical, Aesthetic, Social, Scientific, Intrinsic, Associational & Contextual			
EXTENT OF IMPACT: Local			
SPECIALIST LEVEL OF CONFIDENCE IN DEGREE OF IMPACT AND SEVERITY: High			
3.2 Impact Significance and Severity			
General assessment of impacts on resource (Refer to Section 7.3.1)		Without Management*	With Management*
	Duration	Permanent: High	Permanent: Low
	Intensity	High	Low
	Probability	Definite	Definite
	Impact Significance	High	Low
3.3 Direct Impact Rating			
Direct impact on resource	None (the potential development does not adversely or positively affect the heritage resource)		
	Peripheral / Indirect (the heritage resource or its setting is located in proximity to the footprint of the potential development)		
	Destruction / Direct (the heritage resource or site is physically located within the footprint of the potential development)		X
Direct impact rating (Refer to Section 7.3.2) Note that a default "no impact expected" value applies where a heritage resource occurs outside the impact matrix or applicable conservation buffers of the development.		Very high heritage impact expected.	
3.4 Recommended Management* (refer to section 7.3.3)			
Mitigation			
Comments on recommended management			
If impact is envisaged the following mitigation measures will be required: <ul style="list-style-type: none"> - Documentation of site. - Exhumation and reburial - Full social consultation. - Possible conservation management and protection measures. - Relevant Permitting from Heritage Resources Authority. 			
4. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS			
<ul style="list-style-type: none"> - Human Tissue Act (Act 65 of 1983 as amended). - Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925) - Ordinance on Excavations (Ordinance no. 12 of 1980) - Local and regional provisions, laws and by-laws - National Heritage Resources Act (Act no. 25 of 1999) - Permit from SAHRA for removal 			

- Site BP07: Recent cemetery

1. SITE DESCRIPTION				
1.1 General Site Description				
3 Graves of which 2 have marble grave dressings (dilapidated) and the remaining grave is indicated by stone piles.				
1.2 Site features / artefacts / Other				
Site Location				
Province / District	Limpopo Province	Map Number	2429BC	
Farm Name	Zaakloof 480 KS	Co-ordinates	S24°24'05.76"	E29°42'50.38"
Site Type				

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Surface sites	X	Caves and rock shelters			
Larger open-air sites		Sealed sites (deposits)			
River deposits		Other			
Site Function					
Living / habitation		Kill			
Ceremonial		Burial	X		
Trading / Barter		Art			
Quarry / Mining / Smelting		Other			
Site Placement					
Valley floor		Hill top			
		Vlei/swamp			
		River Mouth			
Dam		River Bank			
		Slope			
		Plains	X		
Other / Comments					
Vegetation					
Riverine forest		Bushveld	X		
		Savannah			
		Mountain forest			
Thornveld	X	Grassland	X		
		Cultivated	X		
		Other			
Age Classification					
Stone Age		Early Iron Age			
		Middle Iron Age			
		Later Iron Age			
Historical	X	Other	X - Recent		
Material Culture					
Midden		House Remains			
		Stone Walling			
		Stone Structures	X		
Granary		Grinding Stone (L)			
		Grinding Stone (U)			
		Granary Stand			
Metal		Ceramics (Pottery)			
		Ceramics (Porcelain)			
		Stone (non-lithic)			
Metal slag		Tuyere			
		Fauna			
		Bead (Glass)			
Bead (OES / Shell)		Glass			
		Lithics			
		Smelting Residues			
Other: X – grave dressing		Other: X – funeral goods			
1.3 Site Condition					
Site preservation is good as the burials are of recent age.					
2. SITE EVALUATION					
2.1 Heritage Value (NHRA, section 2 [3])		High	Medium		
		Low			
It has importance to the community or pattern of South Africa's history or pre-colonial history.			X		
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.		X			
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.			X		
It is of importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.		X			
It has importance in exhibiting particular aesthetic characteristics valued by a particular community or cultural group.					
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.			X		
It has marked or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).		X			
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.			X		
It has significance through contributing towards the promotion of a local sociocultural identity and can be developed as a tourist destination.			X		
It has significance relating to the history of slavery in South Africa.			X		
It has importance to the wider understanding of temporal changes within cultural landscapes, settlement patterns and human occupation.			X		

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2.2 Field Register Rating			
National/Grade 1 [should be registered, retained]			
Provincial/Grade 2 [should be registered, retained]			
Local/Grade 3A [should be registered, mitigation not advised]			
Local/Grade 3B [High significance; mitigation, partly retained]			X
Generally Protected A [High/Medium significance, mitigation]			
Generally protected B [Medium significance, to be recorded]			
Generally Protected C [Low significance, no further action]			
2.3 Sphere of Significance	High	Medium	Low
International			
National			
Provincial			
Local	X		
Specific community			
3. IMPACT RATING AND MITIGATION			
3.1 Impact assessment			
APPROXIMATE DISTANCE FROM DEVELOPMENT: 0 - 100METERS			
NATURE OF IMPACT: Historical, Aesthetic, Social, Scientific, Intrinsic, Associational & Contextual			
EXTENT OF IMPACT: Local			
SPECIALIST LEVEL OF CONFIDENCE IN DEGREE OF IMPACT AND SEVERITY: High			
3.2 Impact Significance and Severity			
General assessment of impacts on resource (Refer to Section 7.3.1)		Without Management*	With Management*
	Duration	Permanent: High	Permanent: Low
	Intensity	High	Low
	Probability	Definite	Definite
	Impact Significance	High	Low
3.3 Direct Impact Rating			
Direct impact on resource	None (the potential development does not adversely or positively affect the heritage resource)		
	Peripheral / Indirect (the heritage resource or its setting is located in proximity to the footprint of the potential development)		
	Destruction / Direct (the heritage resource or site is physically located within the footprint of the potential development)		X
Direct impact rating (Refer to Section 7.3.2) Note that a default "no impact expected" value applies where a heritage resource occurs outside the impact matrix or applicable conservation buffers of the development.		Very high heritage impact expected.	
3.4 Recommended Management* (refer to section 7.3.3)			
Mitigation			
Comments on recommended management			
If impact is envisaged the following mitigation measures will be required: <ul style="list-style-type: none"> - Documentation of site. - Exhumation and reburial - Full social consultation. - Possible conservation management and protection measures. - Relevant Permitting from Heritage Resources Authority. 			
4. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS			
<ul style="list-style-type: none"> - Human Tissue Act (Act 65 of 1983 as amended). - Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925) - Ordinance on Excavations (Ordinance no. 12 of 1980) - Local and regional provisions, laws and by-laws - National Heritage Resources Act (Act no. 25 of 1999) - Permit from SAHRA for removal 			

- Site BP10: Cemetery

1. SITE DESCRIPTION							
1.1 General Site Description							
8 Graves of which 2 have recently erected marble grave dressings, 2 have informal hand-inscribed headstones (dilapidated) and the remaining graves are indicated by stone piles.							
1.2 Site features / artefacts / Other							
Site Location							
Province / District	Limpopo Province			Map Number	2429BC		
Farm Name	Zaakloof 480 KS			Co-ordinates	S24°23'54.19"		E29°43'04.62"
Site Type							
Surface sites	X			Caves and rock shelters			
Larger open-air sites				Sealed sites (deposits)			
River deposits				Other			
Site Function							
Living / habitation				Kill			
Ceremonial				Burial	X		
Trading / Barter				Art			
Quarry / Mining / Smelting				Other			
Site Placement							
Valley floor		Hill top		Vlei/swamp		River Mouth	
Dam		River Bank	X	Slope	X	Plains	
Other / Comments							
Vegetation							
Riverine forest		Bushveld	X	Savannah		Mountain forest	
Thornveld	X	Grassland	X	Cultivated	X	Other	
Age Classification							
Stone Age		Early Iron Age		Middle Iron Age		Later Iron Age	
Historical	X	Other	X - Recent				
Material Culture							
Midden		House Remains		Stone Walling		Stone Structures	X
Granary		Grinding Stone (L)		Grinding Stone (U)		Granary Stand	
Metal		Ceramics (Pottery)		Ceramics (Porcelain)		Stone (non-lithic)	
Metal slag		Tuyere		Fauna		Bead (Glass)	
Bead (OES / Shell)		Glass		Lithics		Smelting Residues	
Other: X – grave dressing				Other: X – funeral goods			
1.3 Site Condition							
Site preservation is good as the burials are of recent age.							
2. SITE EVALUATION							
2.1 Heritage Value (NHRA, section 2 [3])				High	Medium	Low	
It has importance to the community or pattern of South Africa's history or pre-colonial history.					X		
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.				X			
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.					X		
It is of importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.				X			
It has importance in exhibiting particular aesthetic characteristics valued by a particular community or						X	

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cultural group.			
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.			X
It has marked or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).	X		
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.			X
It has significance through contributing towards the promotion of a local sociocultural identity and can be developed as a tourist destination.			X
It has significance relating to the history of slavery in South Africa.			X
It has importance to the wider understanding of temporal changes within cultural landscapes, settlement patterns and human occupation.		X	
2.2 Field Register Rating			
National/Grade 1 [should be registered, retained]			
Provincial/Grade 2 [should be registered, retained]			
Local/Grade 3A [should be registered, mitigation not advised]			
Local/Grade 3B [High significance; mitigation, partly retained]	X		
Generally Protected A [High/Medium significance, mitigation]			
Generally protected B [Medium significance, to be recorded]			
Generally Protected C [Low significance, no further action]			
2.3 Sphere of Significance	High	Medium	Low
International			
National			
Provincial			
Local	X		
Specific community			
3. IMPACT RATING AND MITIGATION			
3.1 Impact assessment			
APPROXIMATE DISTANCE FROM DEVELOPMENT: 0 - 100METERS			
NATURE OF IMPACT: Historical, Aesthetic, Social, Scientific, Intrinsic, Associational & Contextual			
EXTENT OF IMPACT: Local			
SPECIALIST LEVEL OF CONFIDENCE IN DEGREE OF IMPACT AND SEVERITY: High			
3.2 Impact Significance and Severity			
General assessment of impacts on resource (Refer to Section 7.3.1)		Without Management*	With Management*
	Duration	Permanent: High	Permanent: Low
	Intensity	High	Low
	Probability	Definite	Definite
	Impact Significance	High	Low
3.3 Direct Impact Rating			
Direct impact on resource	None (the potential development does not adversely or positively affect the heritage resource)		
	Peripheral / Indirect (the heritage resource or its setting is located in proximity to the footprint of the potential development)		
	Destruction / Direct (the heritage resource or site is physically located within the footprint of the potential development)		X
Direct impact rating (Refer to Section 7.3.2) Note that a default "no impact expected" value applies where a heritage resource occurs outside the impact matrix or applicable conservation buffers of the development.		Very high heritage impact expected	
3.4 Recommended Management* (refer to section 7.3.3)			
Mitigation			
Comments on recommended management			
If impact is envisaged the following mitigation measures will be required:			

- Documentation of site.
- Exhumation and reburial
- Full social consultation.
- Possible conservation management and protection measures.
- Relevant Permitting from Heritage Resources Authority.

4. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS

- Human Tissue Act (Act 65 of 1983 as amended).
- Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925)
- Ordinance on Excavations (Ordinance no. 12 of 1980)
- Local and regional provisions, laws and by-laws
- National Heritage Resources Act (Act no. 25 of 1999)
- Permit from SAHRA for removal

- Site BP11: Informal Cemetery

1. SITE DESCRIPTION

1.1 General Site Description

5 Graves of which one have a weathered name plaque. The remaining graves are indicated by stone piles.

1.2 Site features / artefacts / Other

Site Location

Province / District	Limpopo Province	Map Number	2429BC
Farm Name	Zaakloof 480 KS	Co-ordinates	S24°23'57.61" E29°43'06.48"

Site Type

Surface sites	X	Caves and rock shelters	
Larger open-air sites		Sealed sites (deposits)	
River deposits		Other	

Site Function

Living / habitation		Kill	
Ceremonial		Burial	X
Trading / Barter		Art	
Quarry / Mining / Smelting		Other	

Site Placement

Valley floor		Hill top		Vlei/swamp		River Mouth	
Dam		River Bank	X	Slope	X	Plains	

Other / Comments

Vegetation

Riverine forest		Bushveld	X	Savannah		Mountain forest	
Thornveld	X	Grassland	X	Cultivated	X	Other	

Age Classification

Stone Age		Early Iron Age		Middle Iron Age		Later Iron Age	
Historical	X	Other	X - Recent				

Material Culture

Midden		House Remains		Stone Walling		Stone Structures	
Granary		Grinding Stone (L)		Grinding Stone (U)		Granary Stand	
Metal		Ceramics (Pottery)		Ceramics (Porcelain)		Stone (non-lithic)	
Metal slag		Tuyere		Fauna		Bead (Glass)	
Bead (OES / Shell)		Glass		Lithics	X	Smelting Residues	

Other: X – grave dressing

Other: X – funeral goods

1.3 Site Condition

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Site preservation is good as the burials are probably of recent age.

2. SITE EVALUATION

2.1 Heritage Value (NHRA, section 2 [3])	High	Medium	Low
It has importance to the community or pattern of South Africa's history or pre-colonial history.		X	
It possesses unique, uncommon, rare or endangered aspects of South Africa's natural or cultural heritage.	X		
It has potential to yield information that will contribute to an understanding of South Africa's natural and cultural heritage.		X	
It is of importance in demonstrating the principle characteristics of a particular class of South Africa's natural or cultural places or objects.	X		
It has importance in exhibiting particular aesthetic characteristics valued by a particular community or cultural group.			X
It has importance in demonstrating a high degree of creative or technical achievement at a particular period.			X
It has marked or special association with a particular community or cultural group for social, cultural or spiritual reasons (sense of place).	X		
It has strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa.			X
It has significance through contributing towards the promotion of a local sociocultural identity and can be developed as a tourist destination.			X
It has significance relating to the history of slavery in South Africa.			X
It has importance to the wider understanding of temporal changes within cultural landscapes, settlement patterns and human occupation.		X	

2.2 Field Register Rating

National/Grade 1 [should be registered, retained]	
Provincial/Grade 2 [should be registered, retained]	
Local/Grade 3A [should be registered, mitigation not advised]	
Local/Grade 3B [High significance; mitigation, partly retained]	X
Generally Protected A [High/Medium significance, mitigation]	
Generally protected B [Medium significance, to be recorded]	
Generally Protected C [Low significance, no further action]	

2.3 Sphere of Significance	High	Medium	Low
International			
National			
Provincial			
Local	X		
Specific community			

3. IMPACT RATING AND MITIGATION

3.1 Impact assessment

APPROXIMATE DISTANCE FROM DEVELOPMENT: 0 - 100METERS

NATURE OF IMPACT: Historical, Aesthetic, Social, Scientific, Intrinsic, Associational & Contextual

EXTENT OF IMPACT: Local

SPECIALIST LEVEL OF CONFIDENCE IN DEGREE OF IMPACT AND SEVERITY: High

3.2 Impact Significance and Severity

General assessment of impacts on resource (Refer to Section 7.3.1)		Without Management*	With Management*
	Duration	Permanent: High	Permanent: Low
	Intensity	High	Low
	Probability	Definite	Definite
	Impact Significance	High	Low

3.3 Direct Impact Rating

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Direct impact on resource	None (the potential development does not adversely or positively affect the heritage resource)	
	Peripheral / Indirect (the heritage resource or its setting is located in proximity to the footprint of the potential development)	
	Destruction / Direct (the heritage resource or site is physically located within the footprint of the potential development)	X
Direct impact rating (Refer to Section 7.3.2) Note that a default "no impact expected" value applies where a heritage resource occurs outside the impact matrix or applicable conservation buffers of the development.		Very high heritage impact expected.
3.4 Recommended Management* (refer to section 7.3.3)		
Mitigation		
Comments on recommended management		
If impact is envisaged the following mitigation measures will be required: <ul style="list-style-type: none"> - Documentation of site. - Exhumation and reburial - Full social consultation. - Possible conservation management and protection measures. - Relevant Permitting from Heritage Resources Authority. 		
4. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS		
<ul style="list-style-type: none"> - Human Tissue Act (Act 65 of 1983 as amended). - Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925) - Ordinance on Excavations (Ordinance no. 12 of 1980) - Local and regional provisions, laws and by-laws - National Heritage Resources Act (Act no. 25 of 1999) - Permit from SAHRA for removal 		

7.4 Discussion: Evaluation of Results and Impacts

Previous archaeological and historical studies conducted in the Steelpoort area, coupled with finds noted in this report suggest a rich and diverse archaeological landscape. Based on these observations, the following evaluation of heritage resources in the Project Area is suggested (refer to Figure 7-1):

Stone Age material dating to all periods of the Stone Age occurs in the study area. MSA occurrences such as those located in Study Area 1 occur in open contexts and their original positions have probably been lost which implies a low significance for these artefacts. However, ESA and MSA material scatters in Study Area 3 occur in sealed and intact contexts which might provide significant research potential.

- MSA scatters in Study Area 1 at **Site SA01** are of medium heritage priority. The site is situated close to the proposed tailings dam facility area and as such, the impact on the sites by the proposed activity is considered to be peripheral and permanent in duration where in essence, the impact might result the potential damage / loss of the site. The site is of limited significance and the direct impact on the heritage resource is expected to be high. However, the threshold of the impact can be limited to a low impact by the implementation of mitigation and monitoring measures for the site. **Site SA02**, also in Study Area 1 is of low heritage priority. The site occurs away from the proposed tailings dam facility and no impact is expected.
- The large MSA scatters and additional ESA material along the drainage line in Study Area 3 at **Site SA03** and **Site SA04** is of heritage priority and carries a high significance rating. The sites are situated between approximately 500m and more than 1000m from the proposed mine plant. As such, the impact on the sites by the proposed activity is considered to be none but, since the sites are of major significance it is essential that the impact threshold be limited to a minimum by the implementation of monitoring measures for the sites.

A large number of sites dating to the **Earlier** and **Later Iron Age** occur - and have been studied in the Steelpoort area. In most cases earlier sites occur on the alluvial soils close to water sources and later sites are placed on

mountain slopes where stone for the building of terraces and enclosures, was freely available. The Iron Age occurrences documented in the Lesego Mine Project Area are therefore not entirely unique, where the possible earlier Iron Age as well as the later Iron Age occupation sites are of significance.

- The Iron Age walling and terracing in Study Area 1 at **Site IA01** is of medium heritage priority. The site is situated away from the proposed tailings dam facility and no impact is expected but it is essential that the impact threshold be limited to a minimum by the implementation of monitoring measures for the site.
- Earlier and Later Iron Age sites in Study Area 3 at **Site IA02** and **Site IA03** are of high and medium heritage priority respectively as the sites might yield an understanding of the development and spread of the Iron Age Farmer Period in the larger landscape and in the Steelpoort. The sites are situated some distance north of the proposed mine plant area and as such, the impact on the sites by the proposed activity is considered to none. However, since the sites are of significance, any possible direct impact on the heritage resources should be limited to a minimum by the implementation of monitoring measures for the site and mine development.
- Two Later Iron Age occupation sites in Study Area 3 at **Site IA04** and **Site IA05** are of heritage priority and carry a high significance rating. The sites are situated between approximately 500m and more than 1000m from the proposed mine plant. As such, the impact on the sites by the proposed activity is considered to be none. The sites are of major significance and any direct impact on the heritage resource should be limited to a minimum by the implementation of monitoring measures for the sites.

Sites dating to the **Historical / Colonial Period** in the Steelpoort can typically be related to early farming, mining and missionary activities. However, later sites occurring in the Lesego Mine Project Area, such as the numerous ruined farmsteads scattered across the landscape, are of recent age and their significance deemed low.

- A large number of poorly preserved brick, cement and stone foundation structures, stone wall enclosures and middens were recorded outside of mine infrastructure planning areas (**Site HP01, Site HP02, Site HP03, Site HP04, Site HP05**). These sites are generally of medium-low significance due to the poor preservation of the sites but the structures might yield an understanding of the Historical and Recent time periods, as well as historical architectural and settlement developments in the larger landscape and in the Steelpoort. Since the sites are situated some distance from the proposed Lesego mine infrastructure the impact on the sites by the proposed activity is considered to be none. In addition, a number of structures similar to those described above occur close to or within the proposed development margins of the Lesego mine tailings dam facility at **Site HP06**. These resources are also of medium-low significance due to their poor preservation and impacts on the sites are considered to be peripheral and of permanent duration where in essence, the impact will result the potential damage / loss of the sites. The sites are not of major significance and generally the direct impact on the heritage resource is expected to be high, where the threshold can be limited a low impact by the implementation of mitigation measures for the sites.

Graves are generally protected and are of high significance. This applies to all cemeteries and burial places identified in the Lesego Mine Project Area. In addition, one should also consider that burial places functions as place of "Living Heritage". Here, "Living Heritage" can broadly refer to a place of cultural heritage and sacred nature; with cultural attributions that are not generally physically manifested. This said, due cognisance should be taken of the value and intrinsic symbolic power of cemeteries as site of "Living Heritage" in the Lesego area.

- Small cemeteries and graves in the study area outside of proposed mine development zones (**Site BP01, Site BP02, Site BP03, Site BP09**) are of heritage priority and carries high significance ratings. However, since the sites are away from the proposed mine, the impact by the proposed activity is

considered to be none. However, since the sites are of significance, any possible direct impact on the heritage resources should be limited to a minimum by the implementation of monitoring measures for the sites and the mine development.

- A number of burials and cemeteries occur within areas demarcated for development at Lesego (**Site BP04, Site BP05, Site BP06, Site BP07, Site BP08, , Site BP10, Site BP11, Site BP12**). As with other burials, the sites are of heritage priority and carry a high significance rating. As such, the impact on the sites by the proposed activity is considered to be of permanent duration where in essence, the impact will result the potential damage / loss of the burials. Since the sites are of major significance, the direct impact on the heritage resource is expected to be very high and it is essential that the threshold be limited to a low impact by the implementation of mitigation measures for the sites.

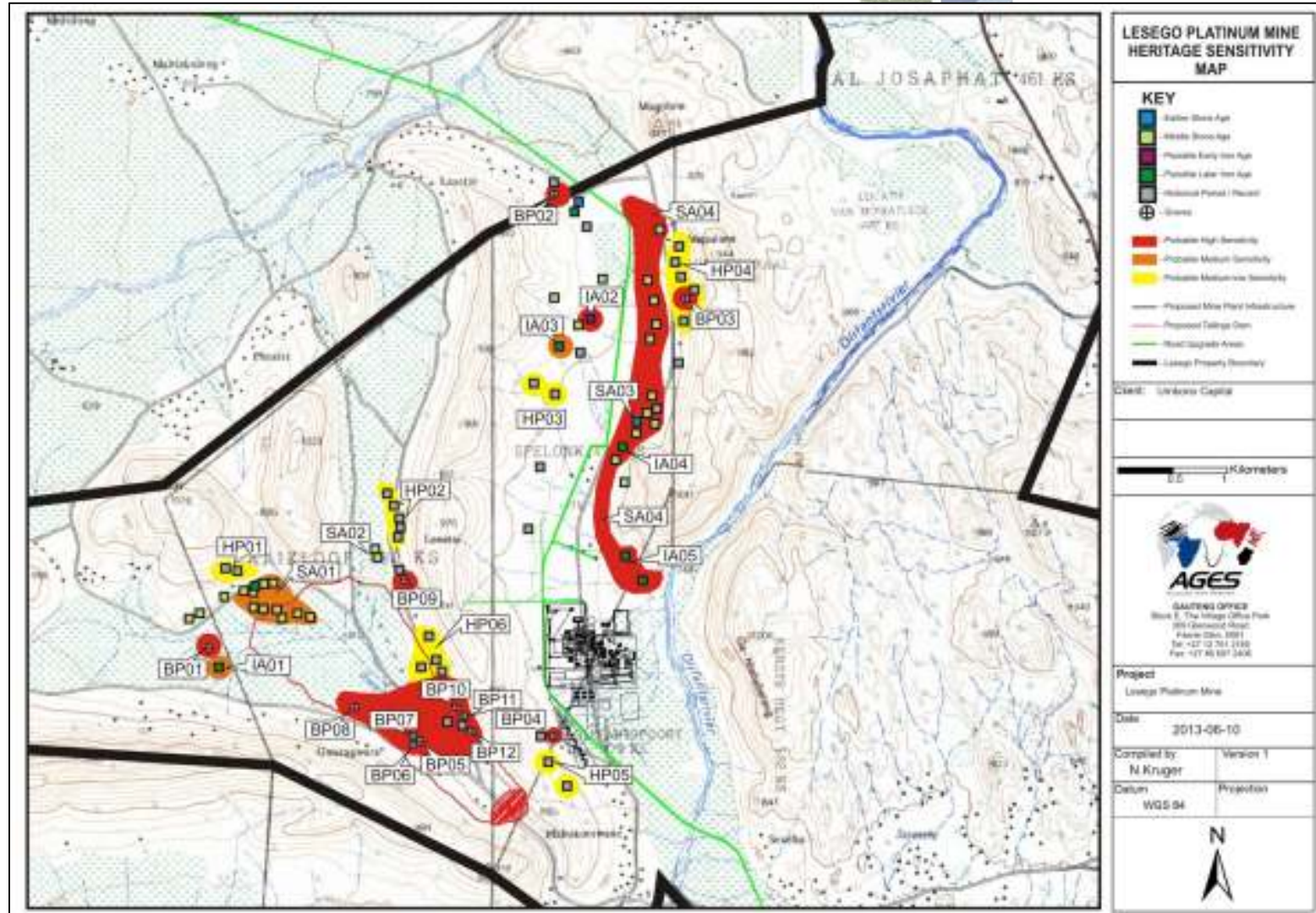


Figure 7-1: Heritage sensitivity map of the Lesego Mine Project Area.

8 RECOMMENDATIONS

The larger landscape in the Steelpoort is rich in pre-historical and historical remnants. Cognisant of this historically significant landscape and the need for the conservation of its heritage resources, the following recommendations are made based on observations in the project area:

- Since the palaeontological sensitivity of rock units within the study area is generally low the impact significance of the proposed mining activities as far as fossil heritage is concerned, is likely to be small. However, a Palaeontological Impact Assessment is recommended and, should fossil remains such as fossil fish, reptiles or petrified wood be exposed during construction, these objects should carefully safeguarded and the relevant heritage resources authority (SAHRA) should be notified immediately so that the appropriate action can be taken by a professional palaeontologist.
- Due cognisance should be taken of the larger palaeontological, archaeological and historical landscape of the area in order to avoid the destruction of previously undetected heritage sites in the area. Here, care should be taken around sandstone outcrops and rock faces, as rock art is known to occur on such features. Water sources such as drainage lines, springs and pans should also be regarded as potentially sensitive in terms of possible Stone Age deposits. The existence of Historical Period and recent resources deriving from the area's contemporary farming history should also be considered.
- MSA scatters in Study Area 1, situated close to the proposed tailings dam facility at **Site SA01** are of medium heritage priority and it is recommended that the site be recorded and that site monitoring be done if any construction takes place in the vicinity of the site. **Site SA02**, also in Study Area 1 is of low heritage priority and the site occurs away from the proposed tailings dam facility. It is recommended that any developments in the area be monitored in order to minimise possible impact on the site.
- The large MSA scatter and additional ESA material along the drainage line in Study Area 3 at **Site SA03** and **Site SA04** is of heritage priority and carries a high significance rating. The sites are situated away from the proposed mine plant but it is recommended that any developments in the area be monitored in order to minimise possible impact on the site. Should any phase of development impact on the sites, it is recommended that a second phase of investigation (Phase 2) be carried out prior to the commencement of development in this area. Such a study should be conducted by a suitably qualified Stone Age archaeologist where a more comprehensive area survey should be conducted. This process should minimally include the sampling of the MSA assemblage through archaeological area and Shovel Test Spit (STP) excavations in order to assess the character and extent of the MSA at in the Lesego Mine Project area. It is also recommended that a geologist should be involved during sampling for input on the rock types and origins of the raw materials used during the production of the lithic sequences.
- The Iron Age walling and terracing in Study Area 1 at **Site IA01** is of medium heritage priority but the site is situated away from the proposed tailings dam facility and it is recommended that any developments in the area be monitored in order to minimise possible impact on the site.
- Earlier and Later Iron Age sites at **Site IA02** and **Site IA03**, and two Later Iron Age occupation sites in Study Area 3 at **Site IA04** and **Site IA05** are of heritage priority as the sites might yield an understanding of the development and spread of the Iron Age Farmer Period in the larger landscape and in the Steelpoort. The sites are situated away from the proposed mine plant but it is recommended that any developments in the area be monitored in order to minimise possible impact on the sites. Limited Phase 2 archaeological investigations should be done on these sites if these areas are to be impacted on by the proposed Lesego mining development. Such mitigation measures should minimally sample cultural and other remains that will adequately allow the temporal, cultural and spatial classification of the sites, by means of site recording and mapping, surface and sub-surface sampling

(limited STP [Shovel Test Spit] excavations) and local social consultation by a suitably qualified archaeological. The Specialist should obtain the necessary permits from the relevant heritage resources authority (SAHRA) for the in-situ analysis, possible collection and photography of the artefacts during the study. As one of the sites (Site IA05) has already been adversely affected by exploration activities, it is strongly recommended that access to, and on these sites be regulated until further archaeological investigations and possible conservation measures are put into action.

- A large number of poorly preserved brick, cement and stone foundation structures, stone wall enclosures and middens dating to the Historical en recent periods, were recorded outside of mine infrastructure planning areas (**Site HP01, Site HP02, Site HP03, Site HP04, Site HP05**). The ruined homesteads are of relatively recent age and regarded as of medium-low significance. Since the sites are situated away from the proposed mine infrastructure it is recommended that any developments in the area be monitored in order to minimise possible impact on the sites. Similar structures occur close to, and within the proposed development margins of the Lesego mine (**Site HP06**). It is recommended that the sites be documented and a destruction permit be acquired from the relevant resources authority if these structures were to be impacted by development activities. In addition, local sentiments and community relationships to these settlements should be observed and considered.
- A number of small cemeteries and graves occur outside proposed mine development zones (**Site BP01, Site BP02, Site BP03, Site BP09**) and, since the sites are away from the proposed mine, the impact by the proposed activity is considered to be none. However, the sites are of significance and any possible direct impact on the heritage resources should be limited to minimum by the implementation of monitoring measures for the sites and mine development. Others burial sites occur within areas demarcated for development at Lesego (**Site BP04, Site BP05, Site BP06, Site BP07, Site BP08, Site BP10, Site BP11, Site BP12**). In principle, graves or any possible burials should be excluded from mitigation measures as the legal, moral and ethical aspects of the disturbance of graves are extremely complex. Also, graves older than 60 years, or unmarked burial places are protected under the NHRA (Act 25 of 1999). The intrinsic heritage and social value of the cemeteries and burial places in the Lesego Project Area requires special management attention and a conservation buffer zone of at least 100m around all graves and cemeteries should be maintained at all times. In addition, it is recommended that all cemeteries and burial places be properly fenced and access control be implemented. However, should any of the cemeteries or graves (or the required 100m buffer zone around them) be impacted in any way by the planned Lesego Mining infrastructure, full grave relocations are recommended for graves to be impacted on. Such measure should be undertaken by a qualified archaeologist, and in accordance with the Human Tissue Act (Act 65 of 1983 as amended), the Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925), the National Heritage Resources Act (Act no. 25 of 1999) and any local and regional provisions, laws and by-laws pertaining to the cemetery. A full social consultation process should occur in conjunction with the mitigation of any burial place or cemetery.
- **It is highly likely that further burials will occur in areas demarcated for development and it is recommended that a dedicated field survey with the assistance of relatives and affected families be done in order to document all graves in the Lesego Project Area.**
- A careful watching brief monitoring process is recommended for all stages of construction and infrastructure development. Should any subsurface paleontological / archaeological / historical material be exposed during construction activities, all activities should be suspended and the archaeological specialist should be notified immediately
- It should be noted that mitigation measures are valid for the duration of the development process, and mitigation measures might have to be implemented on additional features of heritage importance not

detected during this Phase 1 assessment (e.g. uncovered during the construction process).

In addition to these site-specific recommendations, careful cognizance should be taken of the following:

- Rock art is known to exist in sandstone overhangs and rock faces in the larger landscape. Such geological features occur in the landscape but no rock art or markings were identified. Such sandstone outcrops and rock faces should nonetheless be regarded as potentially sensitive in terms of rock markings.
- Water sources such as drainage lines, fountains and pans would often have attracted human activity in the past. As Stone Age material seems to originate from below present soil surfaces in eroded areas, the larger landscape should be regarded as potentially sensitive in terms of possible subsurface deposits.
- As Palaeontological remains occur where bedrock has been exposed, such geological features should be regarded as sensitive in terms of impacts on fossilized resources.
- The Steelpoort Valley has been occupied for many centuries and places of “Living Heritage” might be present in the landscape. Here, “Living Heritage” can broadly refer to a place of cultural heritage and sacred nature; with cultural attributions that are not generally physically manifested. Such places might include initiation sites, places of ritual seclusion, old farmsteads, ritual graves and specific meeting areas. These sites and possible material residues thereof convey an intangible cultural significance beyond the site, shelter or object, where the meaning speaks directly of a sense of place and lived experience. Therefore, Historical period and recent material culture and structures should be regarded as potentially sensitive in terms of the tangible and intangible value of such resources.

9 GENERAL COMMENTS AND CONDITIONS

9.1 General Conditions and Comments

This Phase 1 AIA report serves to confirm the extent and importance of the archaeological sites in the Lesego Mine Project Area. As mentioned earlier, the Steelpoort Area encompasses a rich and diverse archaeological landscape and cognizance should be taken of archaeological material that might be present in surface and sub-surface deposits.

Such material might include Stone Age remains:

- Formal Earlier Stone Age stone tools such as handaxes, choppers and cleavers.
- Formal Middle Stone Age stone tools such as points, blades and scrapers.
- Formal Later Stone Age stone tools such as microlithic blades, points and scrapers.
- Lithic residues and debris such as stone cores and flakes.

Considering the presence of numerous Iron Age site in the Study Area and the Steelpoort, the occurrence of further archaeological remains associated with this period should be anticipated. These remains could include:

- Decorated and undecorated potsherds.
- Iron objects such as spear heads, hoes and bangles.
- Beads made from ostrich eggshell and glass.
- Ash middens and cattle dung deposits and accumulations.
- Elaborate stone walling and site demarcation by means of stone structures, usually round and irregular.



- Copper, iron and gold objects.
- Animal bones and faunal remains.
- Circular stone foundation structures for houses.
- Smaller stone structures such as fireplaces or granary stands.
- Upper and lower grindstones.
- House floors and rubble from hut wall structures.

If such site were to be encountered or impacted by any proposed developments, recommendations contained in this report, as well as endorsement of mitigation measures as set out by SAHRA, the National Resources Act and the CRM section of ASAPA will be required. Please note that this report is a Phase 1 archaeological heritage impact assessment/investigation only and does not include or exempt other required heritage impact assessments.

It must be emphasised that the conclusions and recommendations expressed in this archaeological heritage sensitivity investigation are based on the visibility of archaeological sites/features and may not therefore, represent the area's complete archaeological legacy. Many sites/features may be covered by soil and vegetation and might only be located during sub-surface investigations. If subsurface archaeological deposits, artefacts or skeletal material were to be recovered in the area during construction activities, all activities should be suspended and the archaeological specialist should be notified immediately (**cf. NHRA (Act No. 25 of 1999), Section 36 (6))**).

It must also be clear that Archaeological Specialist Reports (AIA's) will be assessed by the relevant heritage resources authority. The final decision rests with the heritage resources authority, which should give a permit or a formal letter of permission for the destruction of any cultural sites.

9.2 Archaeology, Graves and the Law

Note that four categories of graves can be identified. These are:

- Graves younger than 60 years;
- Graves older than 60 years, but younger than 100 years;
- Graves older than 100 years; and
- Graves of victims of conflict or of individuals of royal descent

In terms of Section 36(3) of the National Heritage Resources Act, no person may, without a permit issued by the relevant heritage resources authority:

- (a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;
 - (b) destroy, damage, alter, exhume or 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
 - (c) bring onto or use at a burial ground or grave referred to in paragraph
- (a) Or (b) any excavation, or any equipment which assists in the detection or recovery of metals.

Human remains that are less than 60 years old are subject to provisions of the Human Tissues Act (Act 65 of 1983) and to local regulations. Exhumation of graves must conform to the standards set out in the Ordinance on Excavations (Ordinance no. 12 of 1980) (replacing the old Transvaal Ordinance no. 7 of 1925). Permission must also be gained from the descendants (where known), the National Department of Health, Provincial Department of Health, Premier of the Province and local police. Furthermore, permission must also be gained from the various landowners (i.e. where the graves are located and where they are to be relocated) before exhumation can take place. A registered undertaker can only handle human remains or an institution declared under the Human Tissues Act (Act 65 of 1983 as amended). Unidentified/unknown graves are also handled as older than 60 until proven otherwise.

Legislation and legal requirements applicable to human remains and burials:

- *Human Tissue Act (Act 65 of 1983 as amended).*
- *Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925)*
- *Ordinance on Excavations (Ordinance no. 12 of 1980)*
- *Local and regional provisions, laws and by-laws*
- *National Heritage Resources Act (Act no. 25 of 1999)*
- *Permit from SAHRA for removal of human remains*

9.3 Burials and Relevant Mitigation: Necessary Procedures

When graves are located in an area demarcated for development, the following mitigation options might be considered:

- **Conservation:** The establishment of a 100 meter buffer zone around the burial place which is fenced off and, maintained and conserved. *This option is generally recommended as the relocation of burial places is an extremely complicated, time consuming and sensitive process.*
- **Mitigation and relocation:** In the event where impact on the burial place will occur, mitigation measures may entail full grave relocation. Such a relocation process must be undertaken by suitably qualified individuals with a proven track record. The relocation must also be undertaken in full cognisance of all relevant legislation, including the specific requirements of the National Heritage Resource Act (Act no. 25 of 1999). Furthermore, a concerted effort must also be made to identify all buried individuals and to contact their relatives and descendants. Other legislative measures which may be of relevance include the Removal of Graves and Dead Bodies Ordinance (Ordinance no. 7 of 1925), the Human Tissues Act (Act no. 65 of 1983, as amended), the Ordinance on Excavations (Ordinance no. 12 of 1980) as well as any local and regional provisions, laws and by-laws that may be in place.

Methodology for grave relocations:

- **Documentation:** Physical documentation of graves and determining context of graves prior to exhumation: Photographic, GPS, Site Map, Historical Background.
- **Public Notices:** In order to locate and notify descendant families, notices (in compliance with the National Heritage Resources Act) must be placed on the site/s, indicating the intent of relocation. These notices, translated into at least 3 languages, have to remain in place for a minimum of 60 days. Additionally, newspaper adverts and notices on local radio stations announcements are required.
- **Social consultation:** If any descendant families were located during initial consultation/public participation phases, a full social consultation action will lodged.

- **Permit application:** Application for a permit from SAHRA can only be obtained after all necessary consent documents from descendant families, landowners and relevant authorities have been secured.
- **Exhumation & relocation**
The exhumation, investigation and reburial of the burial place may commence after SAHRA has issued relevant permits and permissions

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