



SEKOKO RESOURCES: WAYLAND IRON ORE MINE, CAPRICORN DISTRICT MUNICIPALITY, LIMPOPO PROVINCE

Archaeological Impact Assessment Report

August 2012

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ARCHAEOLOGICAL IMPACT ASSESSMENT ON THE FARMS MAKOTOPONG 1200LS AND KALKFONTEIN 615LS FOR THE PROPOSED WAYLAND IRON ORE MINE, CAPRICORN DISTRICT MUNICIPALITY, LIMPOPO PROVINCE

August 2012

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AGES (Pty) Ltd promotes the conservation of sensitive archaeological and heritage resources and therefore uncompromisingly adheres to 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). In order to ensure best practices and ethics in the examination, conservation and mitigation of archaeological and heritage resources, AGES (Pty) follows the Minimum Standards: Archaeological and Palaeontological Components of Impact Assessment as set out by the South African Heritage Resources Agency (SAHRA) and the CRM section of the Association for South African Professional Archaeologists (ASAPA).



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 artifact 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:

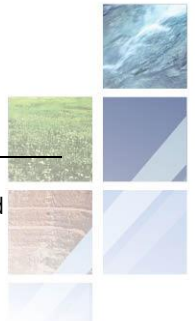
The broad generic term *Cultural Heritage Resources* refers to any physical and spiritual property associated with past and present human use or occupation of the environment, cultural activities and history. The term includes sites, structures, places, natural features and material of palaeontological, 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-artifactual 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 artifacts, in other words artifacts 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 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 ± 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 but are not discussed in this guideline.

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	Early Iron Age (also Early Farmer Period)
EIA	Environmental Impact Assessment
EFP	Early Farmer Period (also Early Iron Age)
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	Later Iron Age (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

This report details the results of an Archaeological Impact Assessment (AIA) Study as part of the scoping phase subject to a mining right application (MRA) for the proposed Sekoko Resources (Pty) Ltd. Wayland Iron Ore Mine, north of Polokwane in the Limpopo Province. 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.

A number of academic archaeological and historical studies have been conducted in this section of the Limpopo Province and these studies all infer a rich and diverse archaeological landscape, representative of most phases of human and cultural development in southern Africa. Similarly, a number of areas of archaeological and heritage potential were located during the AIA survey which focused around areas of heritage potential on the farms Makotopong 1200LS and Kalkfontein 615LS, covering surface areas exceeding 3500ha.

Palaeontology:

Since the palaeontological sensitivity of rock units within the study area is generally low the impact significance of the proposed prospecting 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:

A medium density scatter of quartz stone lithics, possibly from the Middle Stone Age (MSA) and / or Later Stone Age (LSA) occurs in the survey area along a drainage line on the farm Kalkfontein. The material occurs in an open context and the presence of source rock in the larger landscape might imply a local manufacture of the lithics where the hills surrounding Kalkfontein might have acted as factory site for these artefacts. This Stone Age occurrence and its cultural context might be of notable research value and these occurrences are therefore of medium significance. It is recommended that a limited Phase 2 Specialist Study be conducted prior to the commencement of development in this area. This process should minimally include the recording of the larger MSA cultural context by means of a more comprehensive area survey, surface sampling and consequent analysis of the stone artefacts by a suitably qualified Stone Age archaeologist. The specialist should obtain the necessary permits from the relevant heritage resources authority (SAHRA). A number of MSA debris flakes were noted on the farm Makotopong 1200LS, scattered in low concentrations. The occurrences are of low significance.

Iron Age (Farmer Period):

The landscape south of the Soutpansberg display many remnants of Iron Age farmer occupation and a total of 9 sites possibly attributed this time period were identified on Makotopong and Kalkfontein. Two settlement areas with occupation phases possibly dating to the early parts of the Later Iron Age (mid-second millennium AD) was located along the southern border of Makotopong. The sites are characterised by the presence of deep ash deposits, granary stand structures, diagnostic potsherds and faunal remains. In addition, two similar Iron Age occupation areas occur on high ridges on the farm Kalkfontein. The sites display stone enclosures and terracing and they fit a possible Later Iron Age context. These 4 sites are of medium significance and further Phase 2

studies and mitigation procedures are recommended in order to establish the provenance of the sites, by extracting comprehensive material samples prior development / destruction. Such measures should minimally investigate the nature and context 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 specialist. The specialist should obtain the necessary permits from the relevant heritage resources authority (SAHRA). In addition, a number of smaller sites possibly dating to the Iron Age, more specifically two vitrified cattle dung deposits on a ridge and a large disturbed area to the west on Makotopong, as well as a section of collapsed stone walling and minor terrace structure on Kalkfontein are probably of medium-low significance, as little / no heritage remains were located within these contexts and the preservation of the stone structures is generally poor. However, it is recommended that the provenance of the sites be established and that site monitoring be done if any construction takes place around these areas.

Historical/ Colonial Period:

The Zandriverspoort area north of Polokwane has a long and extensive Colonial Period settlement history. From around the first half of the 19th century, the area was frequented by explorers, missionaries and farmers who all contributed to a recent history of contact and conflict which ultimately amounted to the repatriation of the area back to the Makotopong community. The remnants of these histories are scattered across Kalkfontein and Makotopong, with a large number of Colonial Period sites documented specifically on Makotopong. Possibly the most important historical feature in the area is the house of the Lutheran Native Association Mission Station situated near the Sand River on the farm Roodewal (now part of Makotopong). The structure, built in the early 20th century on Roodewal after the farm was purchased from the Berlin Mission Society in the 1920's, is in a run-down state but it is of importance in terms of the regional Missionary history of the Limpopo Province. In addition, the structure is older than 60 years is therefore protected under the NHRA (Act 25 of 1999). It is recommended that the site be maintained and that a site management plan be implemented to restore and conserve the structure. The dilapidated remains of a large number of mud brick houses occur around the Mission house and, as these structures occur within the same historical context as the Mission, they are of medium significance. However, the sites are poorly preserved and it is recommended that the structures be carefully documented and the detailed provenance of the sites be established by means of a desktop study and social consultation and participation, if the sites were to be impacted on by the proposed mining project. If this were to be the case, a destruction permit from the relevant heritage resources authority (SAHRA) would be mandatory.

The remains of the old Ruigedraai homestead, consisting out of an intact farm house and the ruins of a smaller house and hut occurs on the north-eastern periphery of Makotopong. The structures are older than 60 years and they are protected under heritage legislation. It is recommended that the buildings be carefully documented and the detailed provenance of the farmstead be established by means of a desktop study. If the sites were to be impacted on by the proposed mining project, a destruction permit from the relevant heritage resources authority (SAHRA) would be required.

A large number of poorly preserved brick and mud structures, stone wall enclosures and middens are scattered across Makotopong west of the Sand River. In addition, similar structures occur at Kalkfontein north of the current farmstead. The sites, which were probably labourer's quarters in the mid-20th century, occur almost without exception in association with clusters of Sisal Trees and Marlotis Aloes. The sites are of medium-low significance and site monitoring of these structures are recommended when development commences, **as graves are likely to occur around the structures**. If the sites were to be impacted on by the mining development, destruction permits should be obtained from the relevant heritage resources authority (SAHRA).

The recent Roodewal farmstead, farm buildings and sheds occur directly west of the Sand River on the southern border of Makotopong. In addition, a large labourer's hostel compound is situated directly south east of earlier historical labourer's dwellings approximately 2km north of the Roodewal farmhouse. These structures are of recent age and they carry a low significance rating. It is recommended that the sites and surroundings be monitored when the mining development commences.

Graves:

A total of 14 graveyards and/ or burial places were recorded on Makotopong and Kalkfontein. The burial places hold various numbers of graves, most of which are older than 60 years or unmarked and as a result, protected under the NHRA (Act 25 of 1999). As the graves are of high significance and structurally stable, they will require management or mitigation if impact cannot be avoided. A conservation buffer zone of at least 20m around the graves, as well as the fencing off of all cemeteries and graves on the farms Makotopong and Kalkfontein are recommended. However, should the graves or the proposed 20m buffer zone be impacted in any way by the planned activities, full grave relocations are recommended for burials. This measure should be undertaken by a qualified archaeologist, and in accordance with relevant legislation and subject to any local and regional provisions and laws and by-laws pertaining to human remains. A full social consultation process should occur in conjunction with the mitigation of cemeteries and burials and 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. **As burial locations in this area follow a general (and fairly common) pattern where graves occur around historical house structures and homestead complexes, utmost care should be taken not to disturb such resources.**

Mining Sites:

The remains of small scale mica mining are clearly visible at a number of sites on Kalkfontein. As mining operations were probably decommissioned in recent times, the sites are of limited significance with regards to its heritage value. However, it is recommended that the relevant resources agency be consulted prior to the disturbance or alteration of these sites.

Note that access onto a portion of Mokotopong (formerly Portion 5 of the farm Ruigedraai 809LS) could not be obtained and consequently these area could not be surveyed. It is recommended that this Portion be archaeologically surveyed in order to accurately establish the presence of heritage resources, if the area were to be included in mining development areas.

Considering the large extent of the Study Area and the localised nature of heritage remains, a careful watching brief monitoring process is recommended for all stages of the project, specifically around heritage sensitive areas i.e. MSA scatters, Iron Age sites, 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

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 and Iron 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 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.

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 Sekoko Resources (Pty) Ltd to conduct an Archaeological Impact Assessment (AIA) Study on the farms Makotopong 1200LS (formerly portions of Roodewal 808LS and Ruigedraai 809LS) and Kalkfontein 615 LS north of Polokwane in the Limpopo Province. The study was requested subject to the scoping phase for the Mining Right application of the proposed Wayland Iron Ore Mine. The rationale of the 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 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).

2.4 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.

2.4.1 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.

2.4.2 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 proposed Wayland Iron Ore Mine study area is located approximately 30 kilometres north of Polokwane in the Capricorn Magisterial District in the Limpopo Province, more or less at **S23°38'13.82" E29°35'50.78" (Makotopong)**, **S23°42'03.46" E29°28'37.00" (Kalkfontein)**. The Sand River and the N1 highway demarcate the eastern boundary of the farm Makotopong, where the farm Kalkfontein is situated adjacent to the D453 Soetdorings road north-west of Polokwane.

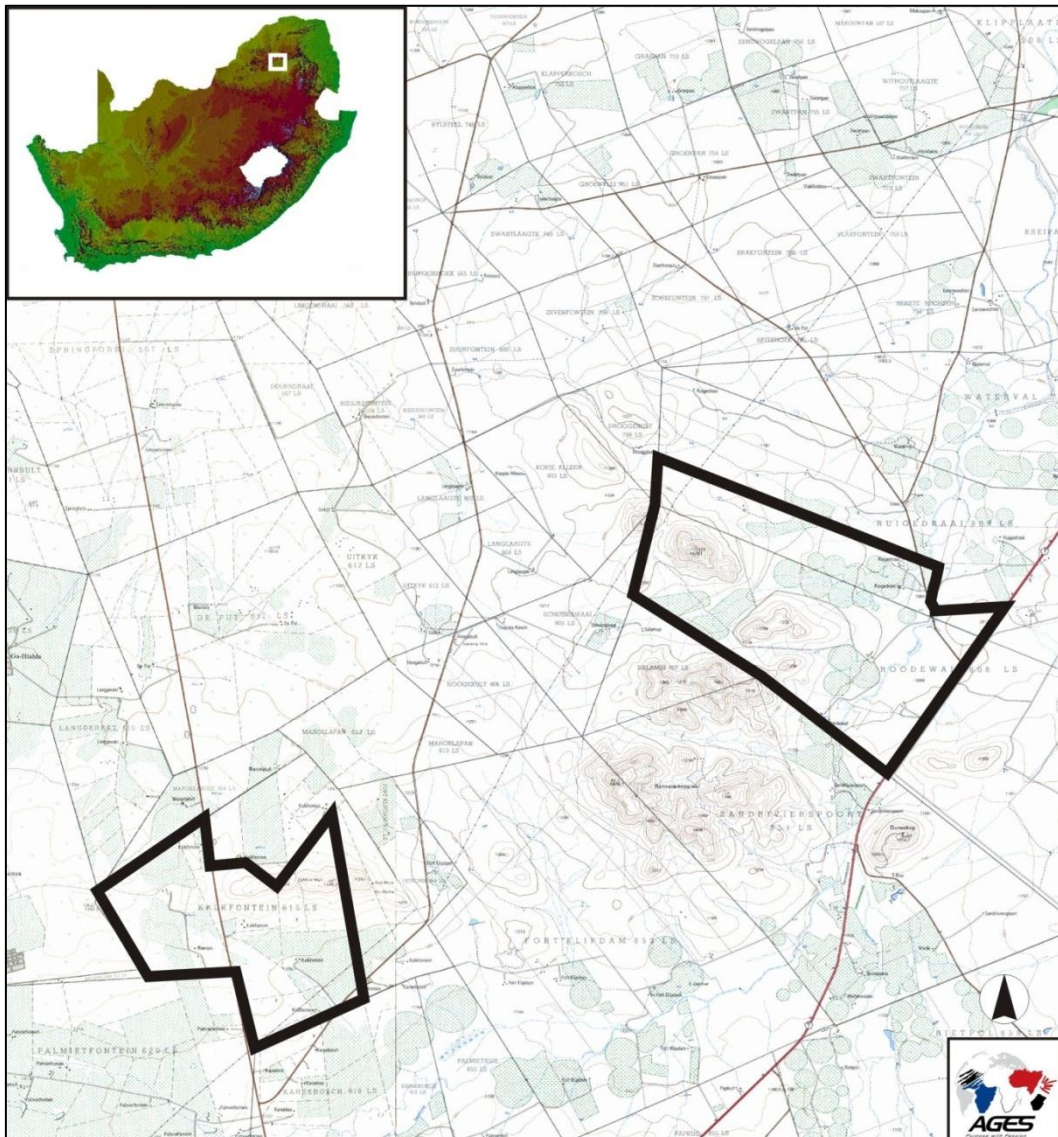


Figure 3-1: 1:50 00 Map representation of the Wayland Iron Ore Mine project location on the farms Makotopong 1200LS (east) and Kalkfontein 615LS (west) (2329DA, 2329CB).

3.2 Area Description: Receiving Environment

The area of the proposed Wayland Iron Ore Mine lies within the Savanna biome which is the largest biome in Southern Africa. It is characterised by a grassy ground layer and a distinct upper layer of woody plants (trees and shrubs). The most recent classification of the area by Mucina & Rutherford is the mountainous areas to be part of the Mamabolo Mountain Bushveld, while a section forms part of the Polokwane Plateau Bushveld in the northwest, while the remainder of the plains and footslopes falls within the Makhado Sweet Bushveld vegetation type. The landscape features of the Makhado Sweet Bushveld vegetation type is slightly to moderately undulating plains, sloping generally down to the north, with some hills to the southwest, while the vegetation is characterised by short and shrubby bushveld with a poorly developed grass layer. The Polokwane Plateau Bushveld vegetation type is characterised by moderately undulating plains with short open tree layer with a well-developed grass layer to grass plains with occasional trees at higher altitudes. The hills and low mountains embedded in this vegetation type are of the Mamabolo Mountain Bushveld. The Mamabolo Mountain Bushveld vegetation type is characterised by low mountains and rocky hills. The slopes are moderate to steep, and very rocky, covered by small trees and shrubs. The regional geology reflects the quartz-amphibolite schists which contain the quartzmagnetite horizons as “banded iron formations” as preserved in a complexly folded outlier, surrounded by tonalitic gneiss. Four deformational phases have been recognised which broadly correlate with those of the Southern Marginal Zone of the Limpopo Metamorphic Complex. The proposed area of the Wayland Iron Ore Mine is underlied by a low-grade Magnetite deposit in the Palaeoproterozoic Rhenosterkoppies Greenstone Belt or Rhenosterkoppies Fragment, which occurs to the northwest of the main, northeast-trending Pietersburg Greenstone Belt. The quartz-amphibolite schists which contain the quartz-magnetite horizons as “banded iron formations” outcrop as a prominent range of hills in an east west direction across the centre of the farm Kalkfontein 615LS; and as a prominent range of hills over much of the western portion of the farm Makotopong 1200LS (see Henning 2012).



Figure 3-2: General surroundings on the farm Makotopong looking east.

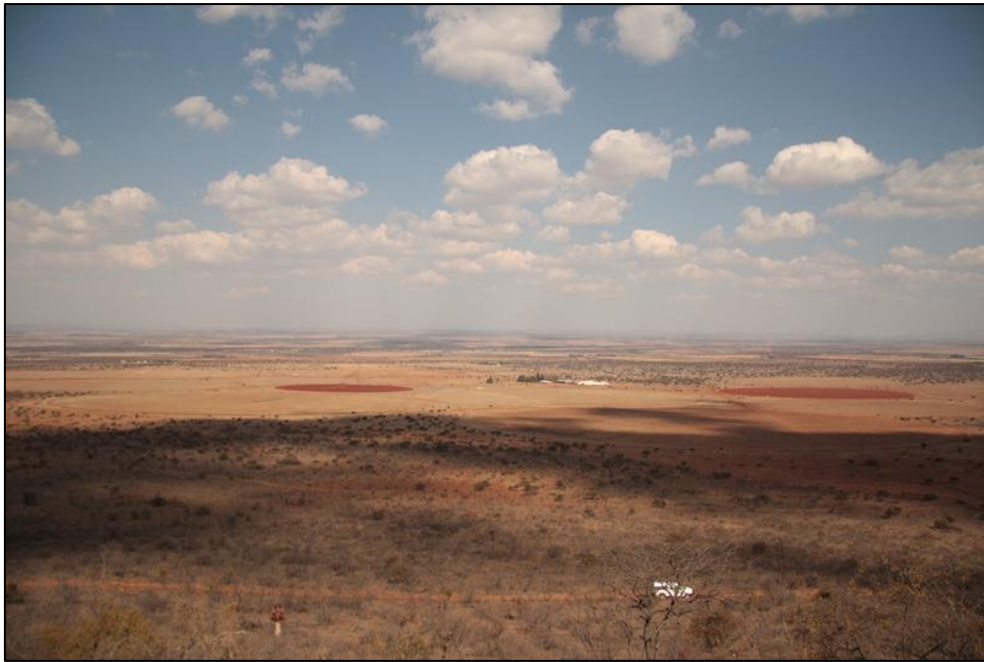
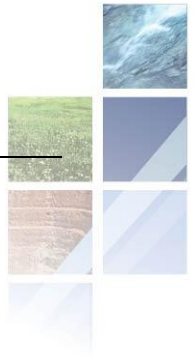


Figure 3-3: General surroundings on the farm Kalkfontein, looking south.

3.3 Site Description

The project area subject to Sekoko Resources (Pty) Ltd's MRA covers the farms Kalkfontein 615LS and Makotopong 1200LS (formerly portions of Vuursteenlaagte 868LS, Roodewal 808LS and Ruigedraai 809LS). More specifically, the AIA study focused around all portions of the farm Makotopong 1200LS (owned by the Makotopong community) and Portions 1, 2 and 6, and the remainder of the farm Kalkfontein 615LS (currently owned by the Du Preez Trust).

At Makotopong, large scale infrastructural developments (i.e. roads, power lines, boreholes, fences, pipelines, etc.) and agricultural activities (i.e. sheds, agricultural fields and irrigation pivots) have been established in recent years but farming activities have been suspended after the repatriation of the farm. These farming activities have nonetheless had an adverse impacted on the terrain. Large areas remain undeveloped where pristine indigenous vegetation still occurs, especially in the mountainous regions.

Some fields on the farm Kalkfontein are currently under cultivation, while other areas were cultivated in the past. A large game enclosure covers most of the higher lying areas and the small hill on the farm.

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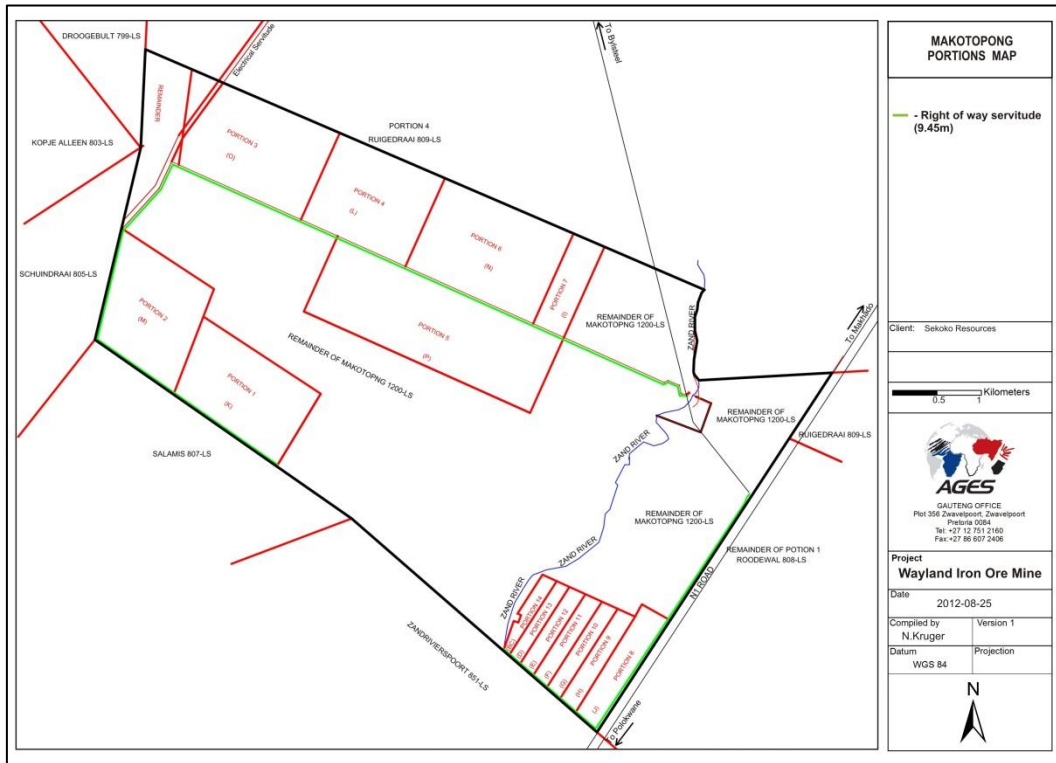


Figure 3-4: Map indicating Portions of the consolidated Makotopong farm.

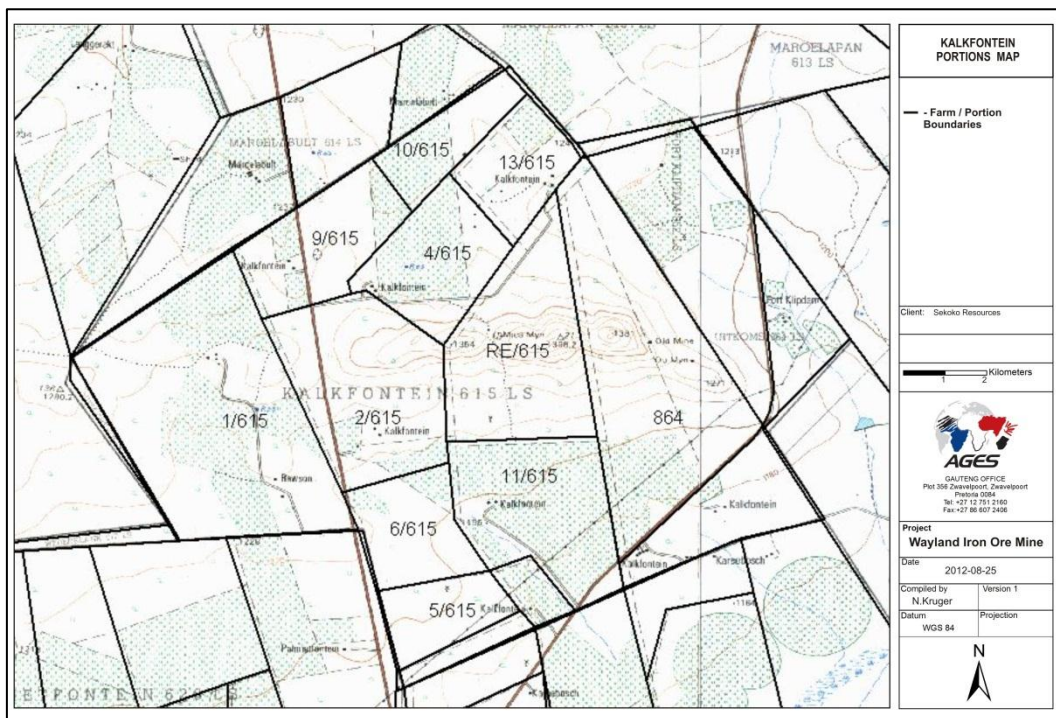


Figure 3-5: Map indicating Portions of the farm Kalkfontein.

4 METHOD OF ENQUIRY

4.1 Sources of Information

As the survey area subject to the Wayland Iron Ore MRA is vast, detailed desktop, aerial and field studies were conducted in order to sample surface areas systematically and to ensure a high probability of heritage site recording.

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, Heritage Impact Assessment Reports, aerial photographs, historical maps and local histories, all pertaining to 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 pedestrian and vehicular survey of Makotopong and Kalkfontein and surroundings, where contour lines of elevations, depressions, variation in vegetation, soil marks and landmarks were examined.

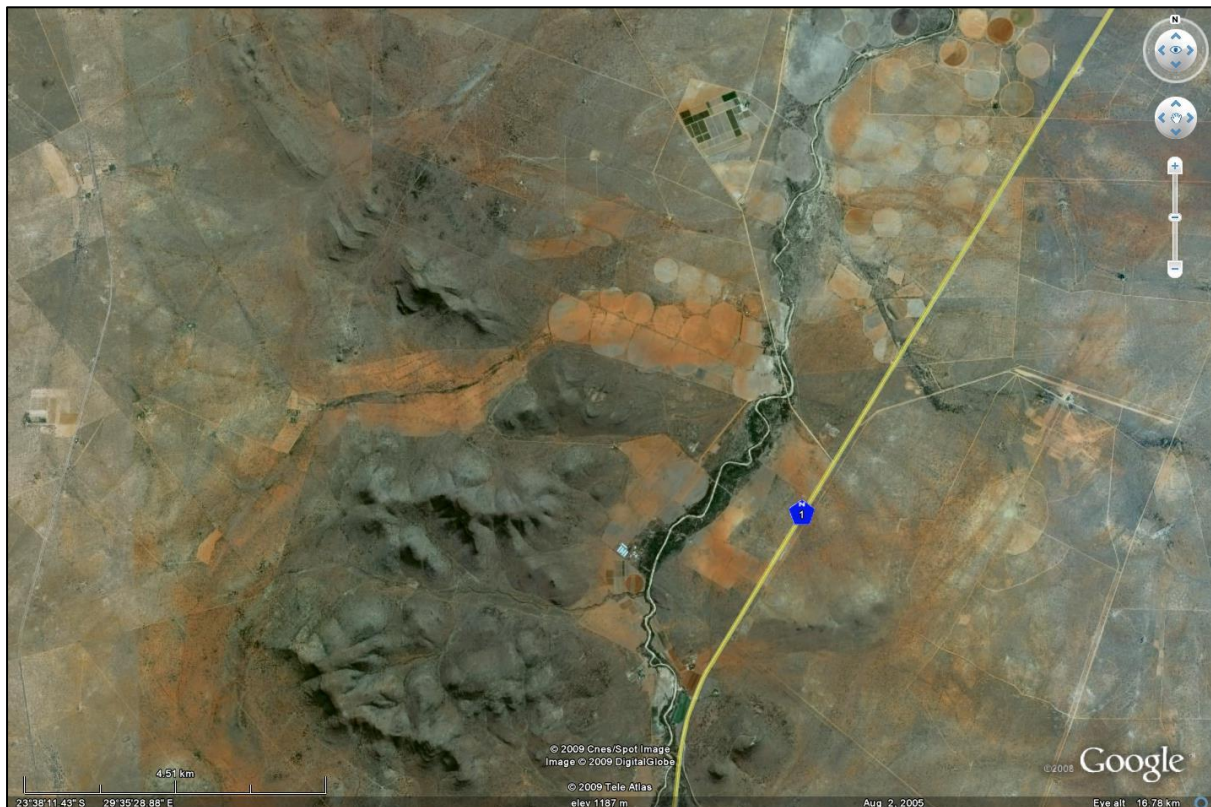


Figure 4-1: Aerial representation of the landscape at Makotopong

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 Wayland Iron Ore Mine was done by means of a systematic 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.

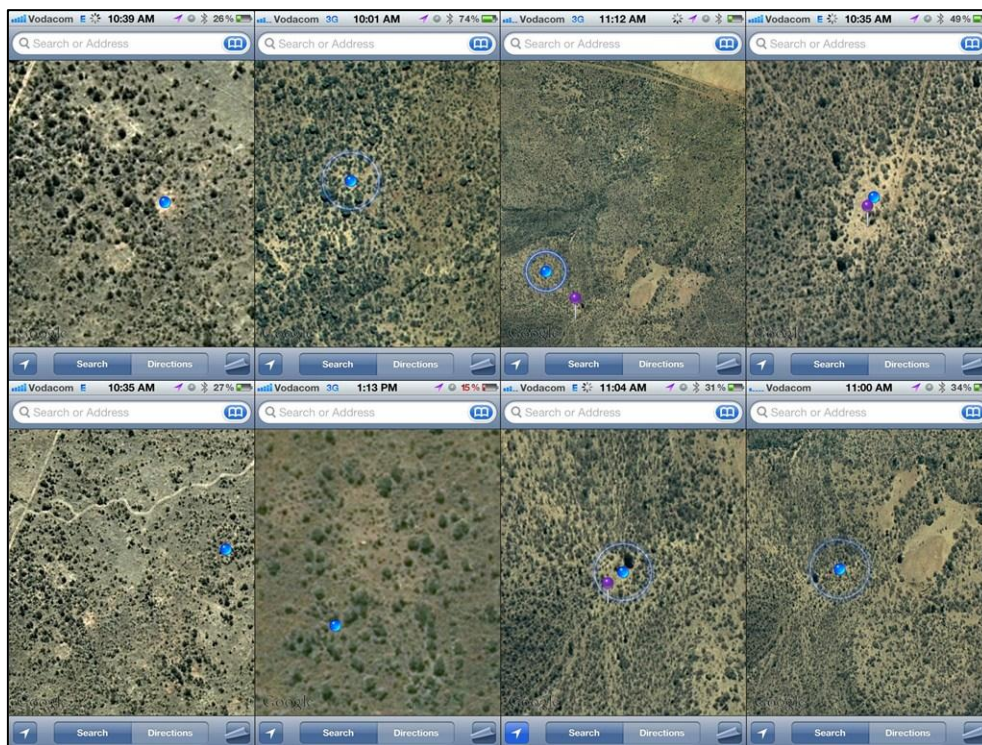
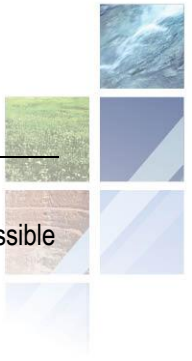


Figure 4-2: Captured screen contents of real time mobile aerial orientation representations employed during the field survey, current field location indicated by blue marker.

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.



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

The farm Makotopong is accessed via a dirt road connecting to the N1 from the west. A network of smaller farm roads provides access to most areas on the property but access gates the north-western portion of Mokotopong (formerly Portion 5 of the farm Ruigedraai 809LS) could not be obtained and these areas could not be surveyed. Kalkfontein is accessed via the D453 Soetdorings road through a series of farm gates. Most areas on the property are easily accessible via small dirt roads and no access restrictions were encountered.

4.2.2 Visibility

The surrounding vegetation differs slightly across the farms subject to the AIA study (refer to Section 3.2) and is mostly constituted out of a combination of scattered bush, trees, grasslands and riverine bush. Similarly, the general visibility at the time of the field survey (August 2012) ranged between high visibility in disturbed areas and agriculture fields, moderate visibility in flatter more pristine areas and low visibility in mountainous regions. In single cases during the survey sub-surface inspection was possible.



Figure 4-3: View of areas of disturbed vegetation at Makotopong, looking west.



Figure 4-4: View across higher ridges on Makotopong, looking north.



Figure 4-5: View of abandoned crop fields at Makotopong, looking west.



Figure 4-6: View of abandoned crop fields at Makotopong, looking east.



Figure 4-7: View of general surroundings in more dense vegetation zones at Makotopong, looking east.



Figure 4-8: View of Makotopong, looking east towards the N1 highway.

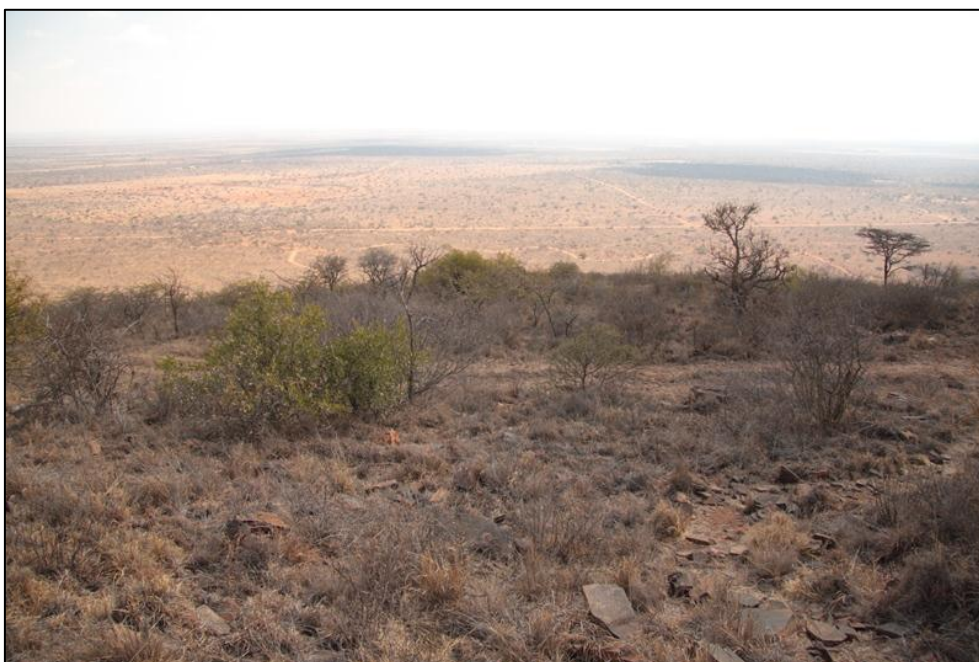


Figure 4-9: View of the farm Kalfontein from a high ridge north of the farmstead, looking south.



Figure 4-10: View of highly disturbed vegetation on the farm Kalfontein, looking north.



Figure 4-11: View of general surroundings in the northern portions of the farm Kalfontein.

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:

- **Access:** Access to a portion of Mokotopong (formerly Portion 5 of the farm Ruigedraai 809LS) were constrained and this area could not be surveyed.
- **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 Mokotopong and Kalkfontein areas, 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

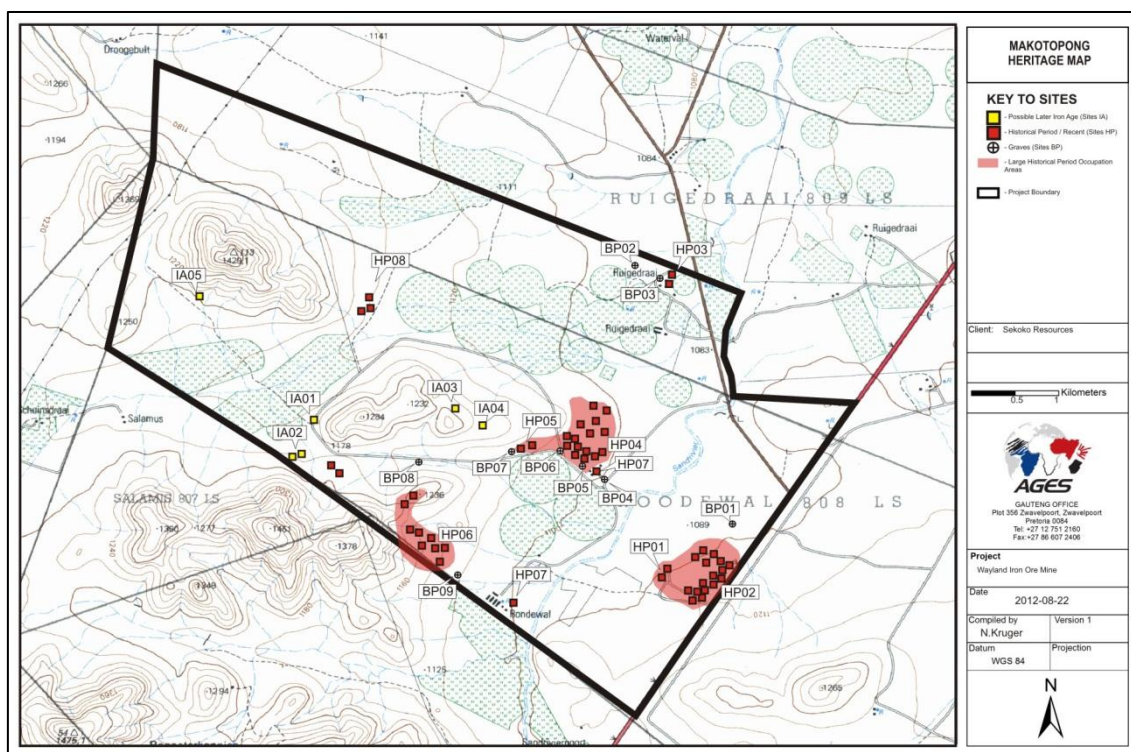


Figure 5-1: Map indicating the locations of archaeological and historical occurrences on the farm Makotopong 1200LS, discussed in the text.

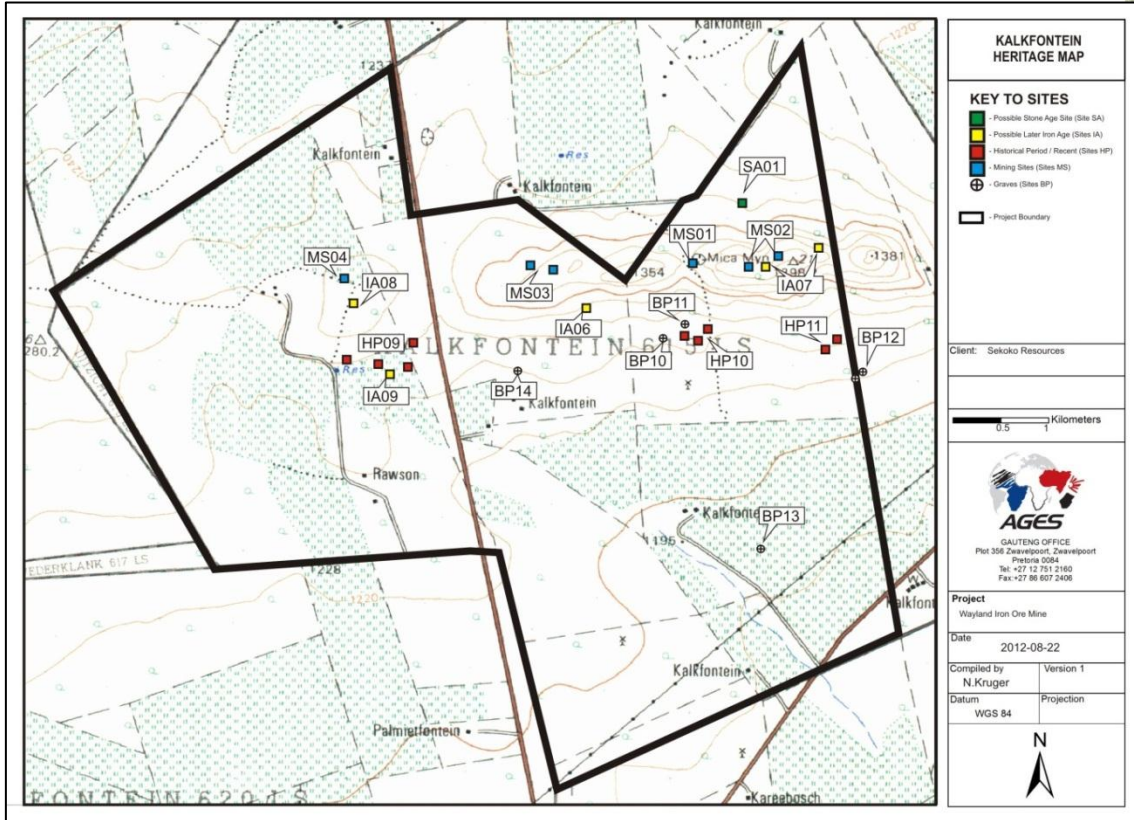


Figure 5-2: Map indicating the locations of archaeological and historical occurrences on the farm Kalkfontein 615LS, discussed in the text.

5.1 The Stone Age

A number of MSA debris flakes were noted on the farm Makotopong 1200LS, scattered in low concentrations. The occurrences are of low significance.



Figure 5-3: MSA debris flakes documented on Makotopong.

- **Site SA01: S23°41'15.46" E29°28'56.55" (Kalkfontein 615LS : MSA Quartz lithic scatter)**

A medium density scatter of quartz stone lithics, possibly from the Middle Stone Age (MSA) and / or Later Stone Age (LSA) occurs in the survey area along a drainage line on the farm Kalkfontein. The material, including side scrapers, cores and broken blades occurs in an open context and the presence of source rock in the larger landscape might imply a local manufacture of the lithics where the hills surrounding Kalkfontein might have acted as factory site for these artefacts. Some of the flakes could also be attributed to the Later Stone Age (LSA), as secondary retouching of the artefacts occurs. The density of the scatter was arbitrarily estimated by placing a one-meter drawing frame, sub-divided into quadrants, on a randomly-selected area displaying higher amounts of surface lithics. By plotting the counts of all lithic elements present in the 1x1 metre square relative density per m² was established and rated on a scale of low (<10), medium (10-20) and high (>20). This method has been adapted as expedient and non-invasive sampling technique that is particularly useful in value assessment of lithic occurrences during Phase 1 AIA's (see Van Der Ryst 2012).



Figure 5-4: View of general surroundings at Site SA01.



Figure 5-5: Quartz lithics originating from Site SA01.

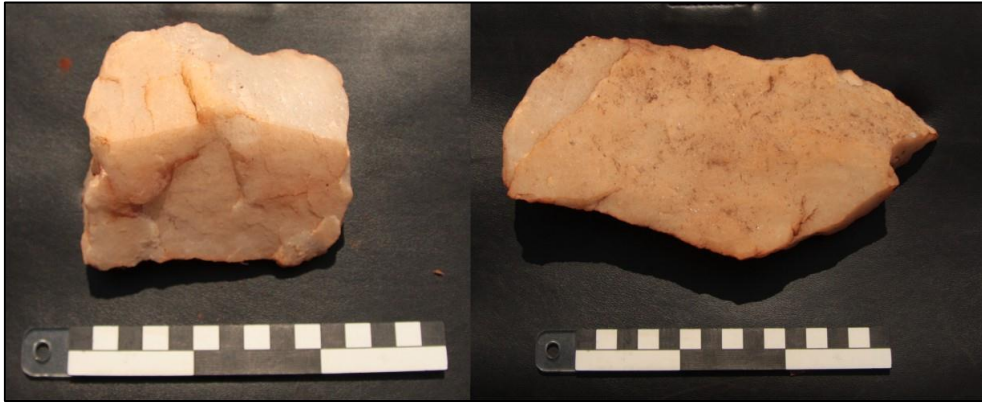


Figure 5-6: Quartz lithics originating from Site SA01.

- **Possible other Stone Age Sites**

It is highly likely that additional Earlier, Middle and possibly Later Stone Age scatters will occur in the area, specifically along drainage lines and where source rock material occurs in the landscape.

5.2 The Iron Age (Farmer Period)

It has been suggested elsewhere that the limited occurrence of Iron Age settlements in the mountainous areas around the Sand River, known as the Iron Mountains can be attributed to the occurrence of the magnetite (banded iron stone) where the abundant magnetite attracts lightning during the rainy season, which makes the area very unsafe and not an ideal area to live (e.g. Coetzee 2009). However, at least 5 possible Iron Age sites have been identified in the larger study area on Makotopong and Kalkfontein.

- **Site IA01: S23°38'13.47" E29°34'25.42" (Makotopong 1200LS: Iron Age farmer period sites)**

An Iron Age occupation site, measuring approximately 100m x 50m in horizontal extent and more or less east-west orientated, was located along a gravel road towards the southern periphery of Makotopong. The site, situated along a large cluster of *Euphorbia candelabrum* trees, possibly dates to the early parts of the Later Iron Age at around 1500 AD. This temporal interpretation is based on (also refer to see Section 6.2.2):

- The regional context: Considering the location of the site in the larger archaeological landscape, the site was probably occupied by early Sotho-Tswana speakers.
- Diagnostic pottery: Pottery fragments recovered from surface areas display similarities to early phases of the Moloko Ceramic Tradition, a regional expression of early Sotho-Tswana ceramic styles which dates to the middle of the second millennium AD.
- The absence of stone walling: Elaborate stone walling is a characteristic feature of Later Iron Age sites in the north-western interior of South Africa area post 1600. *Site IA01* contains no stone walling, which implies that settlement phases of the site predate stone walling, at around 1500AD.

Material culture observed at the site includes granary stand structures, deep ash deposits and a small number of diagnostic potsherds. The potsherds generally display decoration motives such as punctuated, stabbed and incised decorations and exterior surfaces have also been coloured and bi-chromed using ochre and graphite composites. These motives are similar to that of the Moloko Ceramic tradition, more specifically the Icon facies, a regional expression of the Moloko Branch, dating to the 14th – 15th century AD (see Section 6.2.2). There is a

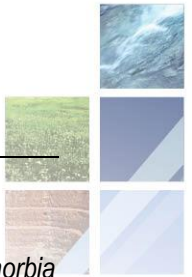
high probability that unmarked graves might be present at this site.



Figure 5-7: View of general surroundings at Site IA01. Note the presence of *Euphorbia candelabrum*.



Figure 5-8: Diagnostic ceramic fragments from Site IA01. The fragments possibly display decoration motives of the 16th century Icon facies.



- **Site IA02: S23°38'27.23" E29°34'16.53" (Makotopong 1200LS: Iron Age farmer period sites)**

Another Iron Age site was documented directly south-west of Site IA01 in a dense cluster of *Euphorbia candelabrum* trees. The possible occupation site profile is similar to that of Site IA01 and it is highly likely that the sites occur in direct context with each other. Artefacts from the site include decorated and undecorated ceramics, upper grindstones and ash deposits.

There is a high probability that unmarked graves might be present at this site.



Figure 5-9: View of general surroundings at Site IA02. Note the presence of a large amount of *Euphorbia candelabrum* trees.

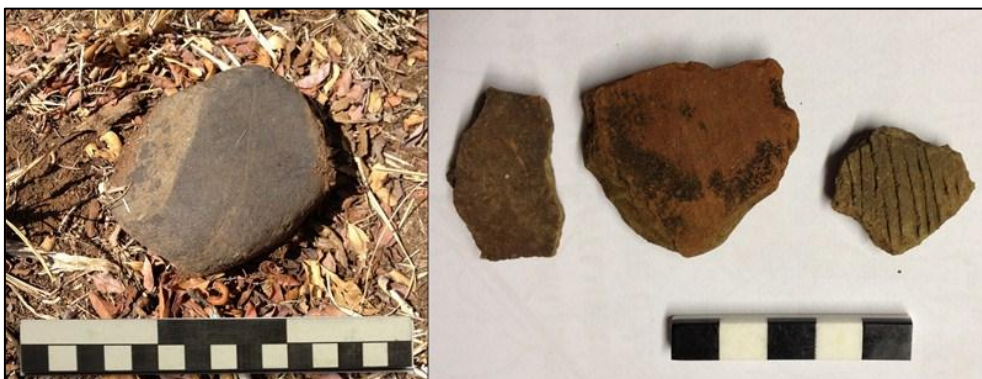


Figure 5-10: Material culture from Site IA02: upper grindstone (left), decorated and burnished ceramics (right).

- **Site IA03: S23°38'07.71" E29°35'12.82" (Makotopong 1200LS: Iron Age farmer period sites)**
- **Site IA04: S23°38'15.48" E29°35'28.28" (Makotopong 1200LS: Iron Age farmer period sites)**

Two sites possibly dating to the Iron Age occur on high ridges in a central portion of Makotopong. The sites are demarcated by a clear vegetation change as a result of deep vitrified cattle dung deposits. Single undecorated ceramic occurrences and unidentified stone structures were observed. However, no other material culture was observed in association with the sites and they were likely utilized as cattle outposts rather than occupation zones.



Figure 5-11: View of general surroundings at Site IA03.



Figure 5-12: View of general surroundings at Site IA04. Note surface vegetation disturbance as a result of vitrified cattle dung.

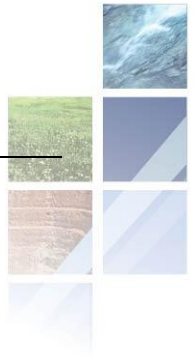


Figure 5-13: Undecorated potsherd (left) and stone structure (right) from Site IA04.

- **Site IA05: S23°37'25.69" E29°33'40.77" (Makotopong 1200LS: Iron Age farmer period sites)**

A clear vegetation change, possibly indicating historical human activity, occurs at the foot of a large mountain towards the western border of Mokotopong. Here, a dense stand of *Cenchrus ciliaris* (blue buffalo grass) and couch grass might indicated a large cattle dung accumulation, as elsewhere on Iron Age sites where these grass types are closely linked to livestock enclosures (e.g. Denbow 1979). No other material culture was observed in association with the vegetation change.

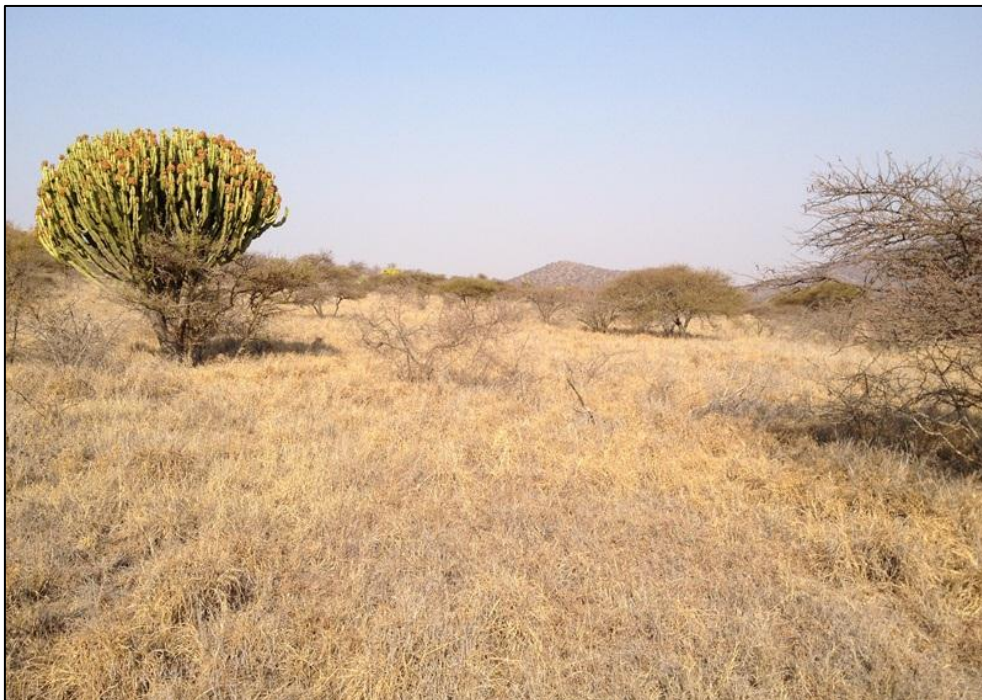


Figure 5-14: View of general surroundings at Site IA05. Note the presence of *Cenchrus ciliaris* grass cover and *Euphorbia candelabrum* tree.

- **Site IA06: S23°41'41.26" E29°28'17.78" (Kalkfontein 615LS : Iron Age farmer period sites)**

A single section of collapsed stone walling was located on a slope in a central portion of the farm Kalkfontein. The walling extends for about 30m from east to west and a small entrance in the structured is demarcated by a

monolith. No material culture was found in association with the walling and it is therefore not possible to accurately ascertain a temporality for the structures. However, considering the intensification of stone wall building in this landscape after the 17th century as well as the settlement of Sotho-Tswana groups, the walls are probably not older than 300 years (see Section 6.2.2).



Figure 5-15: Single stone wall section at Site IA06.

- **Site IA07: S23°41'26.60" E29°29'15.99" (Kalkfontein 615LS : Iron Age farmer period sites)**

Densely overgrown and poorly preserved terrace sections occur on a high plateau towards the north-eastern boundary of Kalkfontein. No material culture or other similar / related structures were identified in the area. Even though the temporality of the structures is not known it might date to the later Iron Age farmer period.



Figure 5-16: Densely overgrown terrace stone structures at Site IA07.

- **Site IA08: S23°41'37.51" E29°27'20.03" (Kalkfontein 615LS : Iron Age farmer period sites)**

A clear vegetation change and deep vitrified cattle dung deposits in association with a circular stone wall structure occur on a ridge on a north-western portion of the farm Kalkfontein. The stone structure measures approximately 4m in diameter. In addition to the cattle dung deposits, deep ashy soils were observed but no material culture was observed and the sites was likely utilized as cattle outposts rather than occupation zones during the Iron Age.



Figure 5-17: View of general Site IA08. Note the presence of *Cenchrus ciliaris* grass in deep ash and cattle dung deposits.



Figure 5-18: Circular stone structure at Site IA08.

- **Site IA09: S23°41'56.24" E29°27'20.96" (Kalkfontein 615LS : Iron Age farmer period sites)**

A large stonewalled site, possibly dating to the later phases of the Iron Age occurs directly west of the D453 Soetdorings road on Kalkfontein, in association with dense *Marlotis Aloe* stands. The site covers a surface area of more than 1ha where a large complex of roughly built stone walls forming enclosures, periphery walls and terraces are scattered across the gradual downward slope of the hill. Besides for a single small lower grind stone, no material culture was observed in association with the structures.



Figure 5-19: View of general surroundings at Site IA09. Note the presence of *Marlotis Aloe* stands which demarcates stone wall structures.



Figure 5-20: Stone wall structures (left) and small lower grindstone (right) from Site IA09.

5.3 Historical / Colonial Period and recent times

The Zandriverspoort area north of Polokwane has a long and extensive Colonial Period settlement history. From around the first half of the 19th century, the area was frequented by explorers, missionaries and farmers who all contributed to a recent history of contact and conflict which ultimately amounted to the repatriation of the area back to the Makotopong community. The remnants of these histories are scattered across Kalkfontein and

Makotopong, with a large number of Colonial Period sites documented specifically on Makotopong.

- **Site HP01: S23°39'13.10" E29°36'37.59" (Makotopong 1200LS: Historical Period Structure)**

A large 3 room house in dilapidated state was documented east of the Sand River on the old Roodewal farm (now part of Makotopong). The structure has partially collapsed and the corrugated iron roof has been disassembled. The structure acted as headquarters for the Lutheran Native Association Mission and was run by the "Makotopong Community Authority". The house, built in the early 20th century on Roodewal after the farm was purchased from the Berlin Mission Society in the 1927, is of importance in terms of the regional Missionary history of the Limpopo Province.



Figure 5-21: The house of the Lutheran Native Association Mission at Site HP01.

- **Site HP02: S23°39'20.64" E29°36'48.66" (south) S23°39'1.82" E29°36'52.83" (north)
(Makotopong 1200LS: Historical Period Structure)**

The dilapidated remains of a large number of mud brick houses occur around the Lutheran Native Association Mission, specifically to the east towards the N1 highway. In most cases, only foundation structures and middens containing glass, metal and bone remain. As these structures occur within the same historical and temporal context as the Mission, they are of significance.

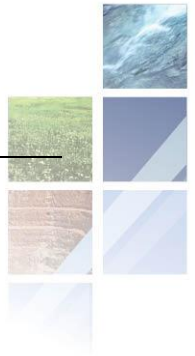


Figure 5-22: View of mud brick house remains at Site HP02.



Figure 5-23: Material culture from Site HP02: Glass fragment and metal container (left) and large metal bath (right).

- **Site HP03: S23°37'17.68" E29°36'40.14" (Makotopong 1200LS: Historical Period Structure)**

The remains of the old Ruigedraai homestead, consisting out of an intact multi-room brick farm house and the ruins of a smaller house and hut occurs on the north-eastern periphery of Makotopong. The settlement complex also includes several cattle enclosures (constructed of wooden poles), sheds, gardens and a family cemetery.



Figure 5-24: Various structures at the old Ruigedraai homestead (Site HP03).

- **Site HP04: S23°38'22.22" E29°36'04.91" (centre) (Makotopong 1200LS: Historical Period Structure)**
- **Site HP05: S23°38'24.60" E29°35'43.53" (Makotopong 1200LS: Historical Period Structure)**
- **Site HP06: S23°39'00.71" E29°35'04.52" (Makotopong 1200LS: Historical Period Structure)**
- **Site HP08: S23°37'27.27" E29°34'46.01" (Makotopong 1200LS: Historical Period Structure)**

A large number of poorly preserved brick and mud structures, stone wall enclosures and middens are scattered across Makotopong west of the Sand River. In addition, similar structures occur at Kalkfontein north of the current farmstead. The sites occur almost without exception in association with clusters of Sisal Trees and Marlotis Aloes. The houses, generally built with clay bricks or stone in square or circular shapes, were probably labourer's quarters in the mid-20th century, 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 indicate a more recent age for the structures. Interestingly enough, grindstones occur within the context of some of these homesteads, which indicates a continuation of Iron Age farming technologies into present-day agricultural activities.



Figure 5-25: The remains of stone wall structures at Site HP04. Note the presence of Sisal trees.



Figure 5-26: The remains of stone foundation structures at Site HP04.

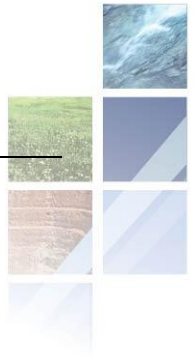


Figure 5-27: The remains of stone wall structures at Site HP06.



Figure 5-28: The remains of stone foundation structures at Site HP07.

- Site HP07: S23°39'22.12" E29°35'40.77" (Makotopong 1200LS: Historical Period Structure-Recent Farmhouse) & S23°38'30.86" E29°36'12.66" (Makotopong 1200LS: Historical Period Structure – labourers hostels)

Wayland Iron Ore Mine: Archaeological Impact Assessment Report

The recent Roodewal farmstead, farm buildings and sheds occur directly west of the Sand River on the southern border of Makotopong. In addition, a large labourer's hostel compound is situated directly south east of earlier historical labourer's dwellings approximately 2km north of the Roodewal farmhouse. These structures are of recent age and they carry a low significance rating. an extended veranda.



Figure 5-29: Site HP07: The recent Roodewal farmstead.



Figure 5-30: Site HP07: A large labourer's hostel compound on the former Roodewal.

- Site HP09: S23°41'55.79" E29°27'33.74" (Kalkfontein 615LS: Historical Period Structure)
- Site HP10: S23°41'46.39" E29°28'47.54" (Kalkfontein 615LS: Historical Period Structure)
- Site HP11: S23°41'49.02" E29°29'20.76" (Kalkfontein 615LS: Historical Period Structure)

Brick and mud structures, stone wall enclosures and middens similar to those located on Makotopong occur at Kalkfontein along the southern slopes a small mountain. The sites occur in association with clusters Marlotis Aloes. The houses, generally built with clay bricks or stone in square or circular shapes, were probably labourer's quarters in the mid-20th century, and material in middens such as glass, metal, enamel, plastic and wood indicates a more recent age for the structures.



Figure 5-31: Remains of brick and mud structures, stone wall enclosures and middens at Site HP09.



Figure 5-32: Historical occupation area at Site HO10.

- **Possible other Historical / Colonial Period Remains**

It is highly likely that further historical period remains will be present in lower lying areas around crop lands on Makotopong and Kalkfontein.

5.4 Graves

A total of 14 graveyards and/ or burial places were recorded on Makotopong and Kalkfontein. The burial places hold various numbers of graves, most 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.

- **Site BP01: S23°38'52.05" E29°37'03.55" (Makotopong 1200LS: Makotopong Community Cemetery)**

A cemetery was recorded north of the Lutheran Native Association Mission and directly west of the N1 highway. The site consists of a graveyard containing a large number of marked and unmarked graves (in excess of 600). Most of the graves have an east–west orientation with headstones placed on the western side. Where headstones do not occur, graves are demarcated by packed rocks. Burial offerings and grave dressing were recorded on several of the graves which confirm existing social ties to the graves. The cemetery is further linked to the Lutheran Native Association Mission community and settlement.

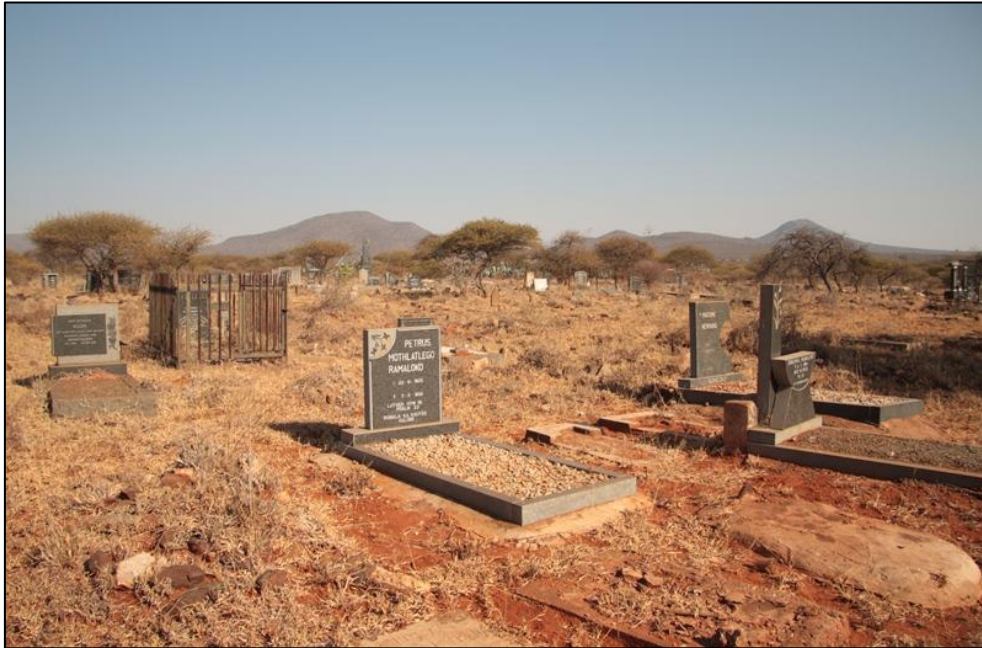
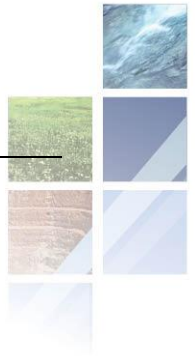


Figure 5-33: View of the Makotopong Community cemetery (Site BP01).



Figure 5-34: Detail of graves at the Makotopong Community cemetery (Site BP01).

- **Site BP02: S23°37'14.37" E29°36'26.97" (Makotopong 1200LS: Informal Burial Place)**

A large cemetery was recorded next to a crop field north of the old Ruigedraai farmstead. The site consists of a large number of graves, of which one is marked with granite headstone. The following inscription was recorded:

*Ngoakwana, Mmaselaelo
Born: 1874/12/30; Died: 1958/07/05; Buried: 1958/07/05
Gotswa go Ditlogolo tsa Gago. Robala Ka Khutso Nkwe*

More or less 40 further graves are demarcated by heaps of packed rocks. Most of the graves have an east-west orientation with unmarked headstones placed on the western side. Burial offerings and grave dressing were recorded on several of the graves which confirm existing social ties to the graves.



Figure 5-35: Informal cemetery at Site BP02.

- **Site BP03: S23°37'19.82" E29°36'36.01" (Makotopong 1200LS: Ruigedraai Family Cemetery)**

A family cemetery was recorded at the old Ruigedraai farmstead. The site consists of 9 graves which are demarcated by inscribed granite headstones. The following inscription was recorded:

In tere herinnering aan ons dierbare moeder

Maria Christina Bekker

Geb. 2 Junie 1877

Oorl. 20 Mei 1961

In tere herinnering aan ons dierbare vader

Pieter Jacobus Bekker

Geb. 27 Augustus 1862

Oorl. 3 Julie 1950

In liefdevolle herinnering aan ons moeder

Catherine M.M Swanepoel

Gebore 10-10-1885

Oorlede 22-12-1955

Rus in Vrede

In liefdevolle herinnering aan my eggenoot en ons vader

Petrus Johannes van Heerden

11-0-1875 – 2-5-1942

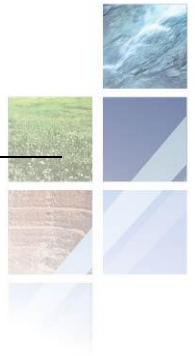
Rus in Vrede

GELDENHUYS

In liefdevolle herinnering aan ons dogtertjie

Maria C.

2-11-1936 – 12-8-1937



*En ons seuntjie
Everhardus J.
1-10-1925 – 31-10-1925
Ons seuntjie
Pieter J.
22-8-1927 – 31-8-1928
Veilig in Jesus Armen*

*In tere herinnering aan ons "Pietie"
P.J Becker
7-11-1936 – 18-10-1941
Veilig in Jesus Armen*

*In liefdevolle herinnering aan ons dierbare seuntjie Johannes
(J.v.H Becker)
24-05-1940 – 24-03-1942
Veilig in Jesus Armen*



Figure 5-36: View of old Ruigedraai family cemetery at Site BP03.

- **Site BP04: S23°38'34.89" E29°36'15.25" (Makotopong 1200LS: Informal Burial Place)**

A current resident of Makotopong pointed out a small cemetery directly south of the former Roodewal labourer hostel compound. Here, a small area of about 15m x 15m has been fenced but the fence has since disappeared. Even though no surface structures could be identified, at least 2 graves are said to occur here. According to the informant the burials relate to the earlier 20th century farming history and labourer occupation of Roodewal.

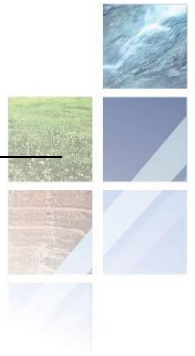


Figure 5-37: Informal cemetery at Site BP04. The tree indicates the location of a grave.

- **Site BP05: S23°38'30.00" E29°36'06.71" (Makotopong 1200LS: Informal Burial Place)**

A single stone cairn resembling a grave with stone dressing was located near the 20th century labourer occupation areas (Site HP04) on the former Roodewal farm. No offerings were recorded on the grave.



Figure 5-38: Stone cairn indicating the location of a grave at Site BP05.

- **Site BP06: S23°38'24.38" E29°35'58.69" (Makotopong 1200LS: Informal Burial Place)**

Three marked burials were documented directly west of the 20th century labourer occupation areas (Site HP04) on the former Roodewal farm. The site consists of a graveyard with 3 graves which are demarcated by concrete slabs and unmarked headstones. The graves have a relative east–west orientation with the headstones placed on the western side. Grave dressing and offerings in the form of clay pots, calabashes and snuff containers were recorded near the graves which confirm existing social ties to the graves.



Figure 5-39: Informal cemetery with three graves at Site BP06. Note presence of offerings and grave dressing.

- **Site BP07: S23°38'25.32" E29°35'39.45" (Makotopong 1200LS: Informal Burial Place)**

A current resident of Makotopong pointed out a burial place north of the 20th century labourer occupation areas at Site HP04. However, he was not certain of the graves' exact location and the graves could not be located but a damaged metal grave "fence", commonly used as grave dressing were observed in the general area. According to the informant the burials relate to the earlier 20th century farming history and labourer occupation of Roodewal. No further grave offerings or dressing were recorded in the area.

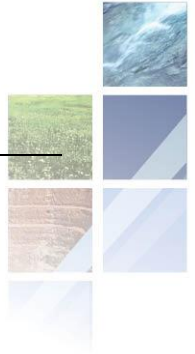


Figure 5-40: A damaged metal grave "fence", commonly used as grave dressing which possibly demarcates the location of Site BP07.

- **Site BP08: S23°38'28.55" E29°35'04.91" (Makotopong 1200LS: Informal Burial Place)**

A small burial site was located in a valley towards the southern border of Makotopong. The site consists of 3 graves which are demarcated by packed stones. No offerings or grave dressing were recorded on the graves.



Figure 5-41: Stone cairns indicating the location of 3 graves at Site BP08.

- **Site BP09: S23°39'12.45" E29°35'19.40" (Makotopong 1200LS: Informal Burial Place)**

A burial site was located in association with another 20th century labourer occupation area at Site HP06, along the southern border of Makotopong. The site consists of at least 4 graves which are demarcated by packed stones. No offerings or grave dressing were recorded on the graves.



Figure 5-42: Large stone cairns and heaps indicating the location of 2 of the graves at Site BP09.

- **Site BP10: S23°41'47.34" E29°28'41.39" (Kalkfontein 615LS: Informal Burial Place)**

Two graves were identified in a historical settlement area (Site HP10) on the farm Kalkfontein. One of the burials is marked with a concrete slab. The following inscription was recorded:

Mokgaba Leso
1-8-1976

The second grave is demarcated by packed stones with a clear unmarked headstone. No offerings or further grave dressing were recorded on the graves.

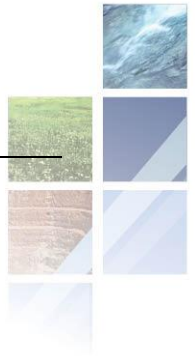


Figure 5-43: Concrete grave dressing (left) and unmarked headstone (right) at Site BP10.

- **Site BP11: S23°41'46.95" E29°28'41.46" (Kalkfontein 615LS: Informal Burial Place)**

Another 3 graves were identified in the historical settlement area (Site HP10) on the farm Kalkfontein, directly north of Site BP10. Two of the burials are marked with concrete slabs in similar fashion to that of the grave at Site BP10. The following inscriptions were recorded on the two graves:

Jonas M Leso

Leso F

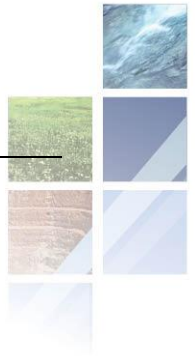
The third grave is demarcated by a few stones with a clear unmarked headstone. No offerings or further grave dressing were recorded on the graves.



Figure 5-44: Concrete grave dressings (left) and unmarked headstone (right) at Site BP11.

- **Site BP12: S23°41'57.69" E29°29'24.32" (Kalkfontein 615LS: Informal Burial Place)**

A single grave was identified along the eastern border of the study area at Kalkfontein. The burial is demarcated by a concrete headstone and grave dressing. The following inscription was recorded:



*Mabotja
John Phuti
Born – 1923
Died – 1947*

No offerings or further grave dressing were recorded on the grave.



Figure 5-45: Single marked grave at Site BP12.

- **Site BP13: S23°42'41.36" E29°29'01.31" (Kalkfontein 615LS: Old Kalkfontein Family Cemetery)**

A small historical family cemetery was documented in a crop land south-east of the old Kalkfontein farmstead. The site consists of 4 graves grave which is demarcated by aged granite headstone. The following inscriptions were recorded:

*Hier Rus
JHL Oelofse
Geb. 14Des. 1856
Oorl. 14Julie. 1935*

*Hier Rus
RC Oelofse
Geb. 18Julie 1844
Oorl. 30April 1930*



Hier Rus
Philliphina Christina Oelofse
Geb. 1 Mei 1895
Oorl. 21 September 1907

Hier Rus
Mathias Daniel Lotter
Geb. 7 Sept 1863
Oorl. 12 Feb 1899

No offerings or further grave dressing were recorded on the graves. The graves are in poor condition and, as they are older than 60 years the burials are protected by the NHRA (Act no 25 of 1999).



Figure 5-46: View of the old Kalkfontein family cemetery in a large crop field at Site BP13,.

- **Site BP14: S23°41'57.05" E29°28'00.68" (Kalkfontein 615LS: Informal Burial Place)**

A single grave was located directly north of the new Kalkfontein farmstead. The grave is demarcated by a recently erected granite headstone and grave dressing. The following inscription was recorded:

Lamola
Rakgamo Malose Hendrick
Born: 1910-03-05
Died: 1963-04-23
Robala Ka KhutsoTlou Letebele Psalm 23...

Offerings placed on the grave include a clay pot, calabash and cold drink bottle, which confirm existing social ties to the graves.



Figure 5-47: Single marked grave at Site BP14.

- **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 burials will, in all probability occur around these locations.

5.5 Other: Mining

- **Site MS01: S23°41'33.75" E29°28'32.07" (Kalkfontein 615LS: Small Mica Mining Site)**
- **Site MS02: S23°41'28.67" E29°29'05.74" (Kalkfontein 615LS: Small Mica Mining Site)**
- **Site MS03: S23°41'36.82" E29°27'57.51" (Kalkfontein 615LS: Small Mica Mining Site)**
- **Site MS04: S23°41'32.34" E29°27'29.33" (Kalkfontein 615LS: Small Mica Mining Site)**

The remains of small scale mica mining are clearly visible at a number of sites on Kalkfontein. As mining operations were probably decommissioned in recent times, the sites are probably of limited significance with regards to its heritage value.



Figure 5-48: View of mine diggings and small scale mica mine at Site MS01.



Figure 5-49: A deep mine shaft at Site MS02.



Figure 5-50: Heaps of Quartzite extracted in the process of mica mining at Site MS03.



Figure 5-51: A small excavation trench at Site MS04.

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.

6.1.4 Bantu Speaking Groups in the South African interior:

It should be noted that terms such as "Nguni", "Sotho", "Venda" and others refer to broad and comprehensive language groups that demonstrated similarities in their origins and language. It does not imply that these Nguni / Sotho groups were homogeneous and static; they rather moved through the landscape and influenced each other in continuous processes marked by cultural fluidity.

Ethnographers generally divide major Bantu-speaking groups of southern Africa into two broad linguistic groups, the Nguni and the Sotho with smaller subdivisions under these two main groups. Nguni groups were found in the eastern parts of the interior of South Africa and can be divided into the northern Nguni and the southern Nguni. The various Zulu and Swazi groups were generally associated with the northern Nguni whereas the southern Nguni comprised the Xhosa, Mpondo, Thembu and Mpondomise groups. The same geographically based divisions exist among Sotho groups where, under the western Sotho (or Tswana), groups such as the Rolong, Hurutshe, Kwena, Fokeng and Kgatla are found. The northern Sotho included the Pedi, and an amalgamation of smaller groups united to become the southern Sotho group or the Basutho. Other smaller language groups such as the Venda, Lemba and Tshonga Shangana transpired outside these major entities but as time progressed they were, however to lesser or greater extend influenced and absorbed by neighbouring groups.

During the last 500 years, the Highveld areas of Gauteng, Mpumalanga and the Limpopo Province were occupied mainly by Ndebele and Pedi groups. These Ndebele groups originated from the Hlubi, a small split group that moved to the north-eastern parts of the Transvaal where they became known as the Transvaal Ndebele (not to be confused with the Ndebele of Mzilikazi). Ndebele groups settled in areas surrounding present-day Pretoria, at Kwa Maza near present-day Stoffberg, at Polokwane and Modimole and across large parts of Mpumalanga. The Kgatla, a Pedi group was established at the end of the 15th century by chief Mokgatla, who broke away from the Hurutshe group to settle in the Witwatersrand area. The Kgatla resided in an expansive area that included present-day Pretoria, the surroundings of the Magaliesberg and areas around present-day Brits, Rustenburg, Modimolle and Bela-Bela (Warmbaths) as well as the Pilansberg area. Isolated Kgatla communities also settled in the surroundings of Lydenburg, Middelburg, Bronkhorstspuit and the Soutpansberg.

6.2 Discussion: The Wayland Iron Ore Mine Project Area Archaeological Representations

A number of academic archaeological and historical studies have been conducted in this section of the Limpopo Province and these studies all infer a rich and diverse archaeological landscape, representative of most phases of human and cultural development in southern Africa.

6.2.1 The Stone Age Period

The cultural historical landscape of Polokwane area spans million years with evidence of hominin occupation, Stone Age traditions, Iron Age farmers and historical events. Makapansgat, a deep limestone cave near Mokopane has yielded remains of *Australopithecus africanus* that dates to more than 3 million years BP and also *Homo erectus*, dating to approximately 1 million years BP. However, Earlier Stone Age (ESA) material is scarce on the Waterberg plateau. The Middle Stone Age (MSA) is abundantly represented in the Waterberg area and archaeological excavations at sites such as the Olieboomspoor Shelter in the north-western part of the Waterberg have yielded rich MSA deposits which display a large degree of specialisation and skill in stone working (Van der Ryst 1996). These groups occupied open camps which were situated in the proximity of water sources such as pans, lakes or rivers. There is a noticeable gap in the area between MSA assemblages and material from the Later Stone Age (LSA), suggesting that the region may not have seen dense human occupation for a long period of time. However, Later Stone Age groups, including the San hunter gatherers and Khoi herders frequented the area in the last few millennia, and numerous LSA sites have been discovered and excavated. Similarly, LSA evidence such as stone implements, ceramics and a wealth of rock paintings and markings are scattered over the plateau.

6.2.2 Iron Age / Farmer Period Sites

Within the last two thousand years, San and Khoi groups were displaced by Iron Age farming communities moving into the Polokwane area, possibly prompted by the spread of tsetse fly into the lowveld areas. Three phases of Iron Age occupation are generally distinguished here (Aukema 1989). The first phase, known as the Eiland tradition, is characterised by herringbone decoration motives on pottery. Little to no stone walling occurs at sites dating to this phase. On the other hand, sites of the second phase of occupation dating to the Later Iron Age are commonly found on hilltops where they display elaborate stone walling. These settlements could be linked to the arrival of Nguni-speakers (Ndebele) in the region between the 16th and 17th centuries AD. The third phase of Iron Age settlement, dating to the 18th and early 19th century, contains bi and multi chrome (red and black) pottery commonly attributed to a Sotho-Tswana ceramic tradition known as Moloko (see *Sotho-Tswana History* section below).

In the northern regions of South Africa at least three settlement phases have been distinguished for early prehistoric agropastoralist settlements during the **Early Iron Age** (EIA). Diagnostic pottery assemblages can be used to infer group identities and to trace movements across the landscape. 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. These sites are usually located on low-lying spurs close to water. However, please note that there are no EIA sites in the Free State.

The **Late Iron Age (LIA)** settlements are characterised by stone-walled enclosures situated on defensive hilltops c. AD 1640 - AD 1830). This occupation phase has been linked to the arrival of ancestral Northern Sotho, Tswana and Southern Ndebele (Nguni-speakers) in the northern and Waterberg regions, and dates from the sixteenth to seventeenth centuries AD. The terminal LIA is represented by late 18th/early 19th century settlements with multichrome Moloko pottery commonly attributed to the Sotho-Tswana. These settlements can in many instances be correlated with oral traditions on population movements during which African farming communities sought refuge in mountainous regions during the processes of disruption in the northern interior of South Africa, resulting from the so-called *difaqane* (or *mfecane*).

Early Sotho-Tswana History

Within a larger archaeological context, the Iron Age settlement representations at Makotopong and Kalkfontein can possibly be traced back to ancestral Sotho-Tswana occupation and developments from the sixteenth century AD onwards. As mentioned previously, diagnostic pottery assemblages are commonly used in the South African Iron Age to infer group identities and to trace movements across the landscape. Similarly, the migration of the Sotho-Tswana speakers in South Africa in the 16th century marked a new ceramic style, known as Moloko. The Moloko Tradition can be divided into two phases: an early phase (e.g. Icon) in which sites were usually located at the foot of hills and contained little or no stone walling; and a later phase characterised by extensive stone wall complexes which were often erected on hills. The early Later Iron age sites at Makotopong and Kalkfontein display ceramic characteristics similar to that of the Icon facies. Further afield, in the Waterberg area, the later Maloko phase manifested in the Madikwe ceramic facies with pottery typically displaying stab and fingernail impression decoration motives. Sites of this period display extensive stone walls, erected to construct stock byres and to demarcate residential units where pole-and-dagha (clay) huts were placed.

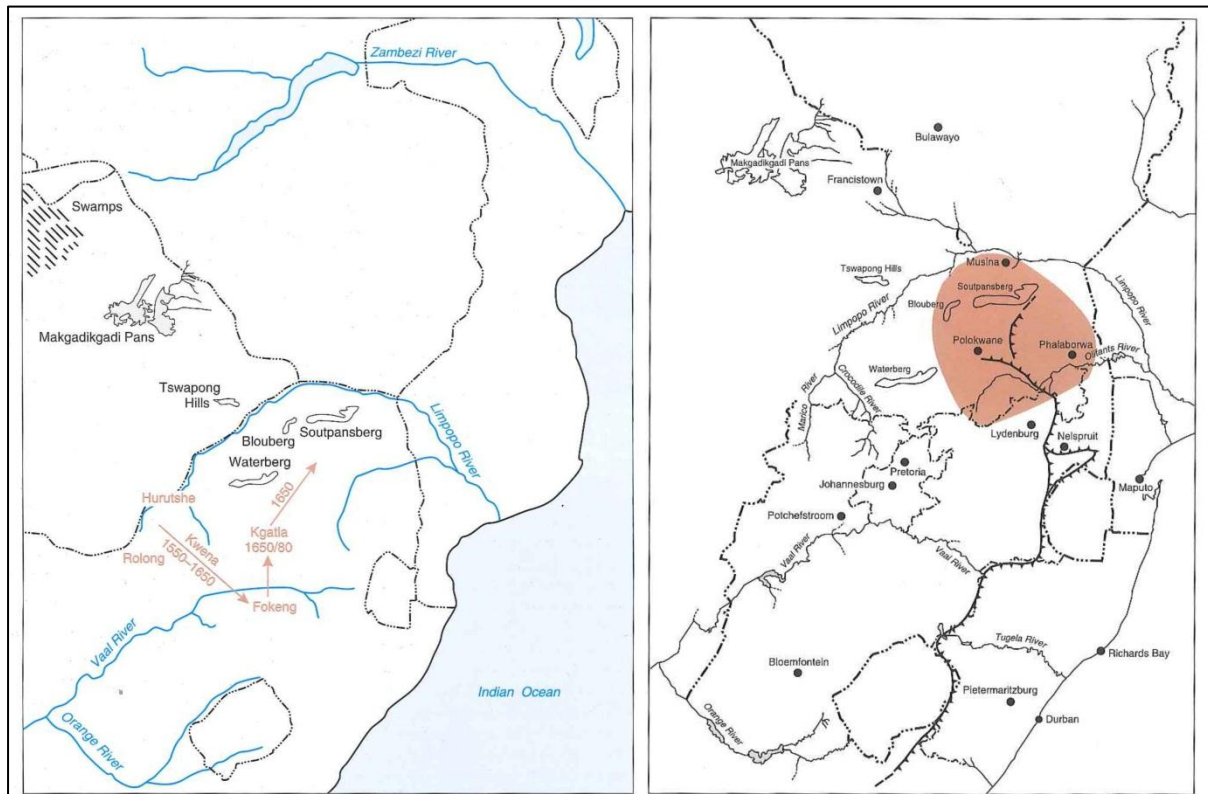


Figure 6-1: Maps detailing the early distribution of Sotho-Tswana speakers (left) and distribution of 16th century Moloko ceramics, specifically the Icon facies (right) (After Huffman 2007).

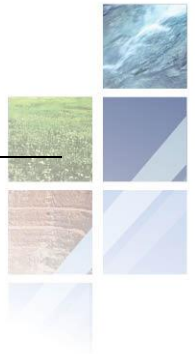


Figure 6-2: Ceramic decoration motives typical of the 15th and 16th century Icon facies (After Huffman 2007).

6.2.3 Later History: Historical archaeology and living heritage

Some of the early Voortrekkers such as Hans van Rensburg and Louis Trigardt and the Boer communities that travelled with them, traversed through the survey area on their way to the Soutpansberg Mountains, in April 1836.

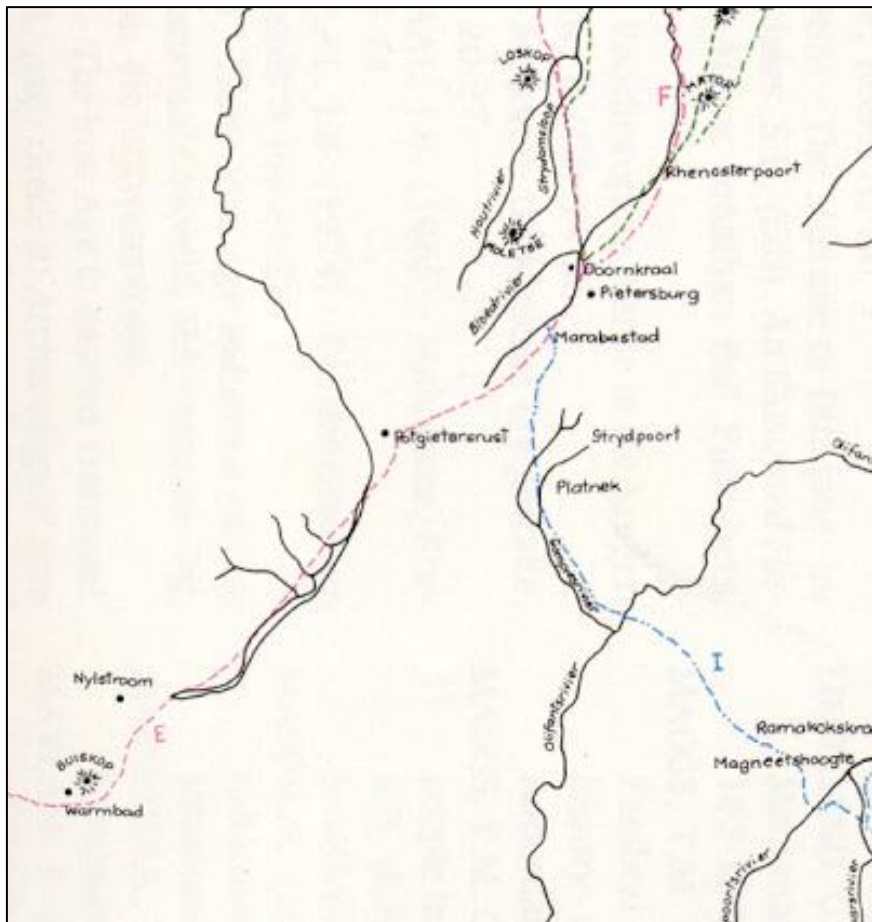


Figure 6-3: Early trek route (E) of Van Rensburg that was followed by Trichardt in 1836 (After De V. Pienaar 1990).

According to indications they trekked through Houtrivier, Loskop, Kalkbank, past Moletse's location (the BaMoletse is a Tswana group) east of Strydomsloop, through Bloedrivier and Doornkraal where he went past Polokwane on the western side. The route then took them north along the Sandrivier where they passed the Ysterberge (Iron Mountains) on the western side, through Makapanspoort and further north (de V. Pienaar 1990:54). A second expedition under Andries Hendrik Potgieter arrived in the area in June 1836, but also continued on further to the north. Some of them settled in Schoemansdal and later also Louis Trichardt.

However it seems that on the way some of the families stayed behind and settled. Some of these early white farmers who settled in the general area north of the present-day Polokwane in the 1830s and 1840s, are Gert Koekemoer on the farm Zandrivier, Baart Fourie on Sterkloop, Piet (P.J.L) Venter and the families Grobler, van Emmenis, Moolman and Vercueil on Doornbult, Hendrik Geysler, Thobias en Jan le Grange on Klipdam, Piet du Preez and Willem Marias on Weltevreden (Zandriverspoort), and Jan Bosch, Barend Vorster and F Sniyman on Rooiwal. With the establishment of the ZAR on 17 January 1852 the constitution stated that all citizens who settled in the area before 1852 were entitled to two farms of 3000 morgen each. It seems that after the small village of Schoemansdal (which was situated east of the presentday Louis Trichardt) was vacated in 1867 most of the uprooted families trekked back to the south and met up with families who stayed behind during the earlier trek northwards towards the Soutpansberg.

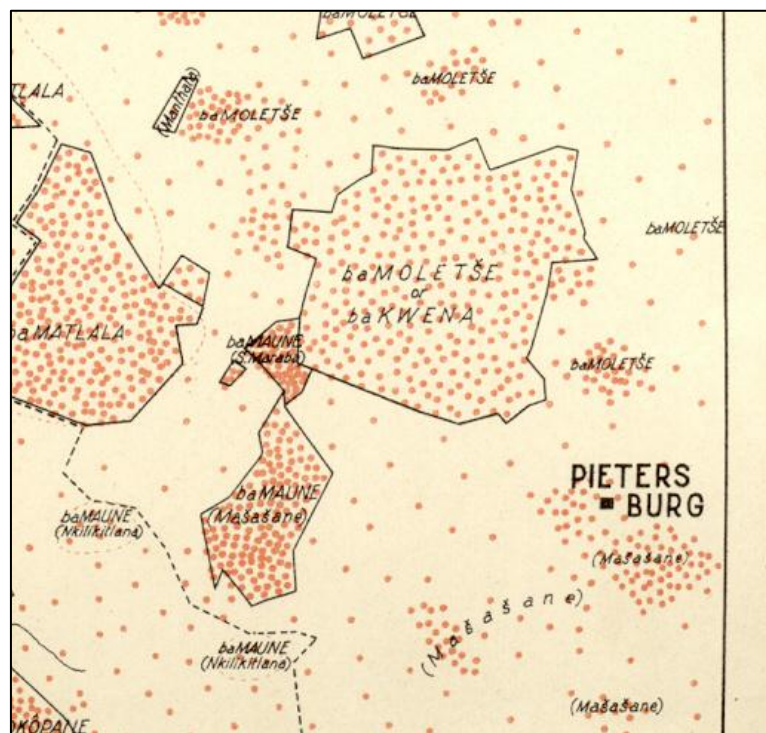


Figure 6-4: Bantu speaking groups occupying areas area north of Polokwane at around 1930 (after Van Warmelo 1935).

Small communities, therefore, existed north of the present-day Polokwane on the farms Doornbult, Klipdam, Rhenosterpoort (Zandriverspoort and Weltevreden) and Rooiwal (Rita). Known families who settled in the area after leaving Schoemansdal are Du Preez, Hugo, Potgieter, Strydom, Marias and Botha. A fort was also built on the farm Klipdam which was under the supervision of veldkornet J.L.H. du Preez (Changuion 1986:7, 9, 11). As a result, the area was settled and extensively farmed for over 150 years. Various Bantu-speaking communities also lived in the general area from before white farmers moved into the region. Several Tswana-speaking groups

settled in the area to the north of Polokwane from very early on. The Moletse Bakwena live to the southwest of the survey area on an extensive mountain range.

6.2.4 Makgopotong: From Mission to Land Claim

The farms Roodewal and Ruigedraai were repatriated to the Makgopotong community after a successful claim on the land in 2002. The land claimants are descendants from two cultural groups who were resident on Roodewal. The origins of the Pedi group are unclear, but the Nguni group (of Shangaan origin) came from Mozambique and resided for a time in the Soekmekaar (Morebeng) area before settling at Roodewal. In the past, the Makopotong community enjoyed rights such as residential, cropping, and grazing until they were dispossessed of the land. The dispossession was effected during the 26th of June and 4th July 1967 in terms of Chapter IV of the Development Trust and Native Land Act of 1936, (Act 18 of 1936) as part of the move to eradicate "Black Spots" in "White Areas".

At the beginning of the 1900's, Roodewald 808LS was owned by the Berlin Mission Society. In 1927, the society sold the land to the Lutheran Native Association, who, in the same year, sold portions to private families residing on the property. It appears that even before this period, the community recognized the leadership of the Phambane's, even though the Headman Phambane was only formally recognized in the 1940s. At the time, the farm Roodewal 808LS comprised Portion A and Portion B and a remainder prior to its subdivision and subsequent consolidation. Portion A was owned in freehold ownership by the trustees of Lutheran Association, known as Makopotong Community Authority. Portion B was owned by Finias Bopape and 15 others and the remainder portions were owned by the Mission Station, which they later sold to private individuals. Roodewal Portion A was sold to the Republic of South Africa by the Lutheran Association in 1974. Portion B was subdivided into 15 portions in 1937 and jointly registered in the name of the 15 owners.

Historically, communities residing at Roodewal were made up of plot owners and tenants who stayed on these plots and the 'common land' owned by the Lutheran Native Association. All enjoyed the rights associated with land ownership and tenancy until 1960, when it was decided as a general policy that the people on Mission

Stations in white areas were no longer allowed to remain and were to be resettled on land or residential sites in the released areas as defined in the Development Trust and Land Act, 1936. The community was settled at Nooitgedacht 913 LS and Onverwacht 914 LS north east of Polokwane on the Mooketsi road. This area later became known as Makopotong settlement. They were also awarded financial compensation for inconvenience and improvements on different portions of the property. Later, the owner of Roodewal, Oerlemans Boerdery, developed the area extensively, especially for irrigation, and operated a multi-million rand business, producing a variety of agricultural products. The irrigation section of the farm used to produce a variety of crops which included maize, wheat, potatoes, tobacco and a variety of vegetables. Roodewal and Ruigedraai was returned to the Makopotong community in 2002 and consolidated to form Makopotong 1200LS after a successful land reformation process.

Wayland Iron Ore Mine: Archaeological Impact Assessment Report

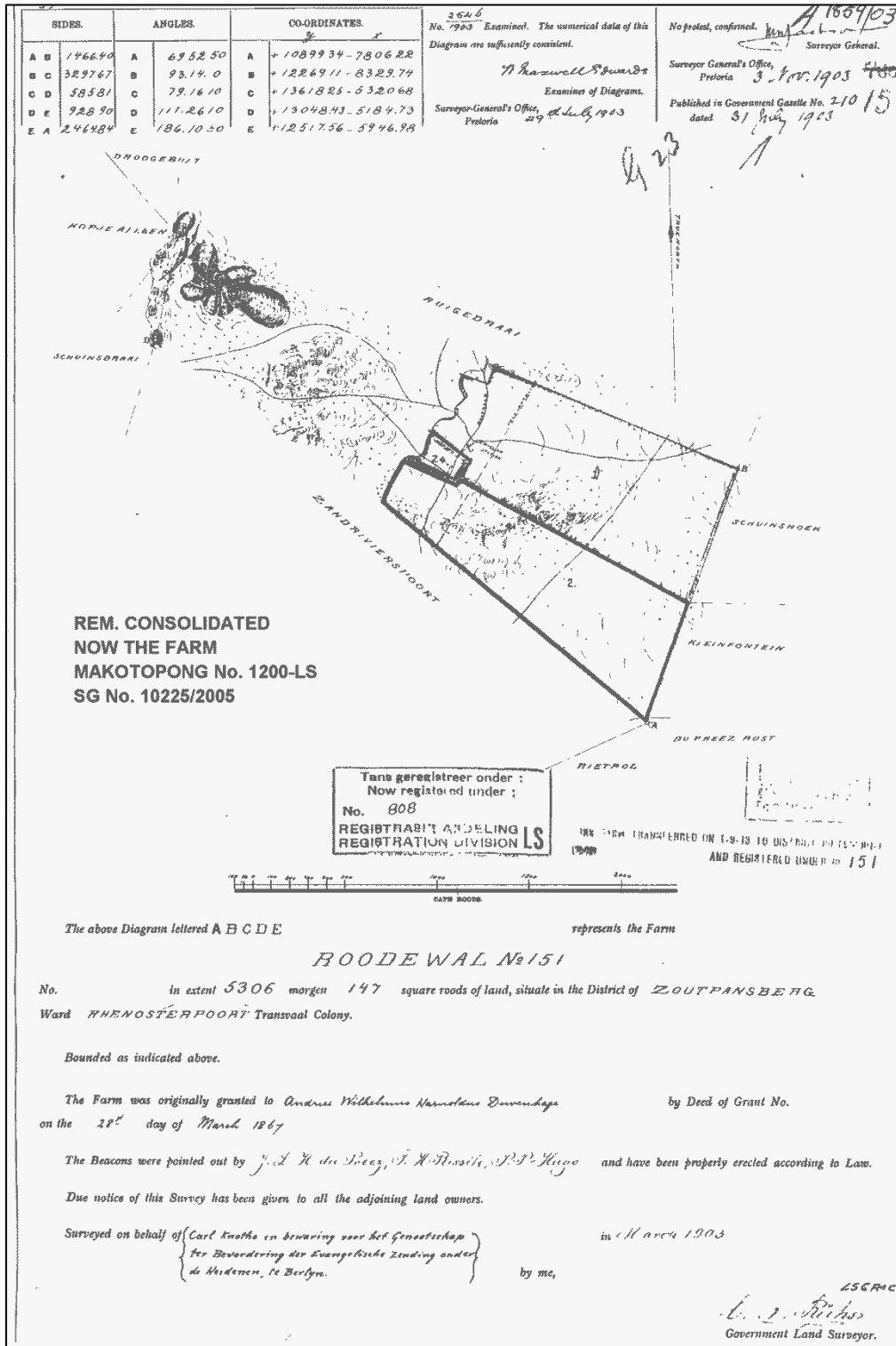


Figure 6-5: The original title deed for the farm Roodewal.

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 provincial HRA.
- Grade 3 of local heritage sites.

Generally protected sites:

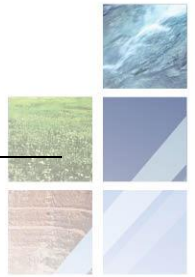
- Human burials older than 60 years.
- Archaeological and palaeontological sites.
- Shipwrecks and associated remains older than 70 years.
- Structures older than 60 years.

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 four 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 Wayland Iron Ore Mine Project area, as supplied in section 7.3.4.

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)

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

- 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

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.

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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			
<p>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</p> <p>Context 2: Of moderate to high intrinsic, associational and contextual value within a local context, i.e. potential Grade 3B heritage resources.</p> <p>Context 3: 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>	<p>Category A: Minimal intensity development</p> <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. <p>Category B: Low-key intensity development</p> <ul style="list-style-type: none"> - Spot rezoning with no change to overall zoning of a site. - Linear development less than 100m - 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 even. - Substantial increase in bulk and height in relation to immediately adjacent buildings (more than 100%) 			

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

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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.

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

1. SITE DESCRIPTION : Possible MSA Quartz scatter							
1.1 General Site Description							
A medium density scatter of quartz stone lithics, possibly from the Middle Stone Age (MSA) and / or Later Stone Age (LSA).							
1.2 Site features / artefacts / Other							
Site Location							
Province / Dsitrict	Limpopo Province			Map Number	2329DA, 2329CB		
Farm Name	Kalkfontein 615LS			Co-ordinates	S23°41'15.46"	E29°28'56.55"	
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			
Trading / Barter				Art			
Quarry / Mining / Smelting				Other	X – factory		
Site Placement							
Valley floor		Hill top		Vlei/swamp		River Mouth	

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Dam		River Bank	X	Slope		Plains	X
Other / Comments							
Vegetation							
Riverine forest		Bushveld		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	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 - terracing				Other:			
1.3 Site Condition							
The site integrity has compromised due to the mixing of surface deposits and displacement of artefacts.							
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		
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]							
C. SPHERE OF SIGNIFICANCE				High	Medium	Low	

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International			
National			
Provincial			
Local		X	
Specific community			

E. GENERAL STATEMENT OF SITE SIGNIFICANCE

Low	
Medium	X
High	

F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT

NATURE OF IMPACT: HISTORICAL & SCIENTIFIC

APPROXIMATE DISTANCE FROM DEVELOPMENT: 0 - 30 METERS

		Without Management*	With Management*
General assessment of impacts on resource (Refer to Section 7.3.1)	Extent	Local	Local
	Duration	Short Term: Medium	Short Term: Low
	Intensity	Medium	Low
	Probability	Probable	Improbable
	Confidence	High	High
	Impact Significance	Medium	Low

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 "Little or no heritage impact expected" value applies where a heritage resource occurs outside the impact matrix of the development.

High heritage impact

G. RECOMMENDED MANAGEMENT* (REFER TO SECTION 7.3.3)

Mitigation

Comments on recommended management

If further impact is envisaged:

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

H. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS

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

- Site IA01, Site IA02

1. SITE DESCRIPTION : Iron Age farmer period sites

1.1 General Site Description

Two settlement areas with occupation phases possibly dating to the early parts of the Later Iron Age (mid-second millennium AD),

1.2 Site features / artefacts / Other

Site Location

Province / Dsitrict	Limpopo Province	Map Number	2329DA, 2329CB	
Farm Name	Makotopong 1200LS	Co-ordinates	S23°38'13.47" S23°38'27.23"	E29°34'25.42" E29°34'16.53"

Site Type

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

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River deposits		Other	
Site Function			
Living / habitation	X	Kill	
Ceremonial		Burial	
Trading / Barter		Art	
Quarry / Mining / Smelting		Other	X – unknown
Site Placement			
Valley floor		Hill top	
		Vlei/swamp	
		River Mouth	
Dam		River Bank	
		Slope	
		Plains	X
Other / Comments			
Vegetation			
Riverine forest		Bushveld	
		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	
		Stone Walling	
		Stone Structures	
Granary	X	Grinding Stone (L)	
		Grinding Stone (U)	X
		Granary Stand	X
Metal		Ceramics (Pottery)	X
		Ceramics (Porcelain)	
		Stone (non-lithic)	X
Metal slag		Tuyere	
		Fauna	X
		Bead (Glass)	
Bead (OES / Shell)		Glass	
		Lithics	
		Smelting Residues	
Other:		Other:	

1.3 Site Condition

The site integrity has compromised due to the displacement of artefacts and structures.

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	

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]			
C. SPHERE OF SIGNIFICANCE			
	High	Medium	
International			
National			
Provincial			
Local		X	
Specific community			
E. GENERAL STATEMENT OF SITE SIGNIFICANCE			
Low			
Medium		X	
High			
F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT			
NATURE OF IMPACT: HISTORICAL & SCIENTIFIC			
APPROXIMATE DISTANCE FROM DEVELOPMENT: 0 - 50METERS			
General assessment of impacts on resource (Refer to Section 7.3.1)		Without Management*	With Management*
	Extent	Local	Local
	Duration	Short Term: Medium	Short Term: Low
	Intensity	Medium	Low
	Probability	Probable	Improbable
	Confidence	High	High
	Impact Significance	High	Low
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) <small>Note that a default "Little or no heritage impact expected" value applies where a heritage resource occurs outside the impact matrix of the development.</small>		High heritage impact	
G. RECOMMENDED MANAGEMENT* (REFER TO SECTION 7.3.3)			
Mitigation			
Comments on recommended management			
If further impact is envisaged: <ul style="list-style-type: none"> - Documentation of sites. - Further desktop study to more accurately ascertain context of sites. - Limited Phase 2 Site Sampling - Relevant Permitting from Heritage Resources Authority. 			
H. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS			
- National Heritage Resources Act (Act no. 25 of 1999)			
- Site IA03, IA04, IA05			

1. SITE DESCRIPTION : Iron Age farmer period sites

1.1 General Site Description

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Smaller sites possibly dating to the Iron Age, more specifically two vitrified cattle dung deposits on a ridge and a large disturbed area.

1.2 Site features / artefacts / Other

Site Location

Province / District	Limpopo Province	Map Number	2329DA, 2329CB	
Farm Name	Makotopong 1200LS	Co-ordinates	S23°38'07.71" S23°38'15.48" S23°37'25.69"	E29°35'12.82" E29°35'28.28" E29°33'40.77"

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 – pastoral

Site Placement

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

Vegetation

Riverine forest		Bushveld		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		Stone Walling		Stone Structures	X
Granary		Grinding Stone (L)		Grinding Stone (U)		Granary Stand	
Metal		Ceramics (Pottery)	X	Ceramics (Porcelain)		Stone (non-lithic)	
Metal slag		Tuyere		Fauna		Bead (Glass)	
Bead (OES / Shell)		Glass		Lithics		Smelting Residues	
Other: X – Cattle dung				Other:			

1.3 Site Condition

The site integrity has been severely compromised by surface degrading and vegetation.

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			X

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particular period.			
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	

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

C. SPHERE OF SIGNIFICANCE

	High	Medium	Low
International			
National			
Provincial			
Local			X
Specific community			

E. GENERAL STATEMENT OF SITE SIGNIFICANCE

Low	X
Medium	
High	

F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT

NATURE OF IMPACT: HISTORICAL & SCIENTIFIC

APPROXIMATE DISTANCE FROM DEVELOPMENT: 0 - 30 METERS

		Without Management*	With Management*
General assessment of impacts on resource (Refer to Section 7.3.1)	Extent	Local	Local
	Duration	Sort Term: Low	Sort Term: Low
	Intensity	Low	Low
	Probability	Improbable	Improbable
	Confidence	High	High
	Impact Significance	Low	Low

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 "Little or no heritage impact expected" value applies where a heritage resource occurs outside the impact matrix of the development.

Moderate heritage impact

G. RECOMMENDED MANAGEMENT* (REFER TO SECTION 7.3.3)

Monitoring

Comments on recommended management

If further impact is envisaged:

- Documentation of sites
- Site monitoring during development, by an ECO or the heritage specialist.

H. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS

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

- Site IA06, IA07

1. SITE DESCRIPTION : Iron Age farmer period sites

1.1 General Site Description

A section of collapsed stone walling and minor terrace structure.

1.2 Site features / artefacts / Other

Site Location

Province / Dsitrict	Limpopo Province	Map Number	2329DA, 2329CB	
Farm Name	Kalkfontein 615LS	Co-ordinates	S23°41'41.26" S23°41'26.60"	E29°28'17.78" E29°29'15.99"

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 – unknown

Site Placement

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

Vegetation

Riverine forest		Bushveld		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		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 has been severely compromised by surface degrading and vegetation. Structures have collapsed.

2. SITE EVALUATION

2.1 HERITAGE VALUE (NHRA, Section 2 [3])

High

Medium

Low

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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	

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

C. SPHERE OF SIGNIFICANCE

	High	Medium	Low
International			
National			
Provincial			
Local			X
Specific community			

E. GENERAL STATEMENT OF SITE SIGNIFICANCE

Low	X
Medium	
High	

F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT

NATURE OF IMPACT: HISTORICAL & SCIENTIFIC

APPROXIMATE DISTANCE FROM DEVELOPMENT: 0 - 30METERS

		Without Management*	With Management*
General assessment of impacts on resource (Refer to Section 7.3.1)	Extent	Local	Local
	Duration	Sort Term: Low	Sort Term: Low
	Intensity	Low	Low
	Probability	Improbable	Improbable
	Confidence	High	High
	Impact Significance	Low	Low
Direct impact	None (the potential development does not adversely or positively affect the heritage resource)		

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on 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) <small>Note that a default "Little or no heritage impact expected" value applies where a heritage resource occurs outside the impact matrix of the development.</small>		Moderate heritage impact
G. RECOMMENDED MANAGEMENT* (REFER TO SECTION 7.3.3)		
Monitoring		
Comments on recommended management		
If further impact is envisaged: <ul style="list-style-type: none"> - Documentation of sites - Site monitoring during development, by an ECO or the heritage specialist. 		
H. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS		
- National Heritage Resources Act (Act no. 25 of 1999)		

- Site IA08, IA09

1. SITE DESCRIPTION : Iron Age farmer period sites							
1.1 General Site Description							
Iron Age occupation areas occurring on high ridges.							
1.2 Site features / artefacts / Other							
Site Location							
Province / Dsitrict	Limpopo Province			Map Number	2329DA, 2329CB		
Farm Name	Kalkfontein 615LS			Co-ordinates	S23°41'37.51" S23°41'56.24"	E29°27'20.03" E29°27'20.96"	
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	X – unknown		
Site Placement							
Valley floor		Hill top		Vlei/swamp		River Mouth	
Dam		River Bank		Slope	X	Plains	X
Other / Comments							
Vegetation							
Riverine forest		Bushveld		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		Stone Walling	X	Stone Structures	X
Granary		Grinding Stone (L)	X	Grinding Stone (U)		Granary Stand	
Metal		Ceramics (Pottery)		Ceramics (Porcelain)		Stone (non-lithic)	X

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

1.3 Site Condition

The site integrity has compromised and structures are not 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 patterns and human occupation.		X	

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]	

C. SPHERE OF SIGNIFICANCE

	High	Medium	Low
International			
National			
Provincial			
Local		X	
Specific community			

E. GENERAL STATEMENT OF SITE SIGNIFICANCE

Low	
Medium	X
High	

F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT

NATURE OF IMPACT: HISTORICAL & SCIENTIFIC
APPROXIMATE DISTANCE FROM DEVELOPMENT: 0 - 30METERS

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General assessment of impacts on resource (Refer to Section 7.3.1)		Without Management*	With Management*
	Extent	Local	Local
	Duration	Sort Term: Medium	Sort Term: Low
	Intensity	Medium	Low
	Probability	Probable	Improbable
	Confidence	High	High
Impact Significance	Medium	Low	
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)		
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 the impact matrix of the development.			High heritage impact
G. RECOMMENDED MANAGEMENT* (REFER TO SECTION 7.3.3)			
Mitigation			
Comments on recommended management			
If further impact is envisaged: <ul style="list-style-type: none"> - Documentation of sites. - Further desktop study to more accurately ascertain context of sites. - Limited Phase 2 Site Sampling. - Relevant Permitting from Heritage Resources Authority. 			
H. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS			
- National Heritage Resources Act (Act no. 25 of 1999)			

- **Site HP01**

1. SITE DESCRIPTION : Historical Period Structures							
1.1 General Site Description							
The house of the Lutheran Native Association Mission Station.							
1.2 Site features / artefacts / Other							
Site Location							
Province / Dsitrict	Limpopo Province	Map Number	2329DA, 2329CB				
Farm Name	Makotopong 1200LS	Co-ordinates	S23°39'13.10"	E29°36'37.59			
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	X	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		Savannah		Mountain forest	

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Thornveld	X	Grassland	X	Cultivated	X	Other	
Age Classification							
Stone Age		Early Iron Age		Middle Iron Age		Later Iron Age	
Historical	X	Other					
Material Culture							
Midden		House Remains	X	Stone Walling		Stone Structures	
Granary		Grinding Stone (L)		Grinding Stone (U)		Granary Stand	
Metal	X	Ceramics (Pottery)		Ceramics (Porcelain)	X	Stone (non-lithic)	X
Metal slag		Tuyere		Fauna	X	Bead (Glass)	
Bead (OES / Shell)		Glass	X	Lithics		Smelting Residues	
Other:				Other:			

1.3 Site Condition

The site integrity has been severely compromised by the impact of natural elements and the structure is not maintained.

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	

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]	X
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]	

C. SPHERE OF SIGNIFICANCE

	High	Medium	Low
International			
National			
Provincial		X	
Local			

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Specific community				
E. GENERAL STATEMENT OF SITE SIGNIFICANCE				
Low				
Medium				X
High				
F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT				
NATURE OF IMPACT: HISTORICAL, AESTHETIC, SOCIAL, SCIENTIFIC, ARCHITECTURAL & VISUAL.				
APPROXIMATE DISTANCE FROM DEVELOPMENT: 2000+ METERS				
General assessment of impacts on resource (Refer to Section 7.3.1)		Without Management*	With Management*	
	Extent	Local	Local	
	Duration	Sort Term: Medium	Sort Term: Low	
	Intensity	Medium	Low	
	Probability	Probable	Improbable	
	Confidence	High	High	
	Impact Significance	Medium	Low	
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) <small>Note that a default "Little or no heritage impact expected" value applies where a heritage resource occurs outside the impact matrix of the development.</small>			Medium heritage impact	
G. RECOMMENDED MANAGEMENT* (REFER TO SECTION 7.3.3)				
Avoidance				
Comments on recommended management				
If further impact is envisaged: <ul style="list-style-type: none"> - Documentation of sites - Further desktop study to more accurately ascertain context of sites. - Implementation of Site Management Plan in order to conserve site. 				
H. 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 HP02**

1. SITE DESCRIPTION : Historical Period Structures				
1.1 General Site Description				
The dilapidated remains of a large number of mud brick houses.				
1.2 Site features / artefacts / Other				
Site Location				
Province / Dsitrict	Limpopo Province	Map Number	2329DA, 2329CB	
Farm Name	Makotopong 1200LS	Co-ordinates	S23°39'20.64" S23°39'01.82"	E29°36'48.66" E29°36'52.83"
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		

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Ceremonial	X	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	
		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	
Material Culture			
Midden		House Remains	X
		Stone Walling	X
		Stone Structures	X
Granary		Grinding Stone (L)	
		Grinding Stone (U)	
		Granary Stand	
Metal	X	Ceramics (Pottery)	
		Ceramics (Porcelain)	X
		Stone (non-lithic)	X
Metal slag		Tuyere	
		Fauna	X
		Bead (Glass)	
Bead (OES / Shell)		Glass	X
		Lithics	
		Smelting Residues	
Other:			
1.3 Site Condition			
The site integrity has been severely compromised and structures have almost completely 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	
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]			

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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]			
C. SPHERE OF SIGNIFICANCE			
	High	Medium	
International			
National			
Provincial			
Local		X	
Specific community			
E. GENERAL STATEMENT OF SITE SIGNIFICANCE			
Low			
Medium		X	
High			
F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT			
NATURE OF IMPACT: HISTORICAL, AESTHETIC, SOCIAL, SCIENTIFIC, ARCHITECTURAL & VISUAL.			
APPROXIMATE DISTANCE FROM DEVELOPMENT: 2000+ METERS			
General assessment of impacts on resource (Refer to Section 7.3.1)	Without Management*	With Management*	
	Extent	Local	Local
	Duration	Sort Term: Medium	Sort Term: Low
	Intensity	Medium	Low
	Probability	Probable	Improbable
	Confidence	High	High
	Impact Significance	Medium	Low
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)		
Direct impact rating (Refer to Section 7.3.2) <small>Note that a default "Little or no heritage impact expected" value applies where a heritage resource occurs outside the impact matrix of the development.</small>		Medium heritage impact	
G. RECOMMENDED MANAGEMENT* (REFER TO SECTION 7.3.3)			
Mitigation			
Comments on recommended management			
If further impact is envisaged: <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. 			
H. 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 HP03

1. SITE DESCRIPTION : Historical Period Structures
1.1 General Site Description
The remains of the old Ruigedraai homestead, consisting out of an intact farm house and the ruins of a smaller house and hut.
1.2 Site features / artefacts / Other

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Site Location								
Province / Dsitrict	Limpopo Province			Map Number	2329DA, 2329CB			
Farm Name	Makotopong 1200LS			Co-ordinates	S23°37'17.68"	E29°36'40.14"		
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	X		Vlei/swamp		
Dam			River Bank			Slope		
Other / Comments								
Vegetation								
Riverine forest			Bushveld			Savannah		
Thornveld	X		Grassland	X		Cultivated	X	
Mountain forest								
Other								
Age Classification								
Stone Age			Early Iron Age			Middle Iron Age		
Historical	X		Other					
Material Culture								
Midden			House Remains	X		Stone Walling		
Granary			Grinding Stone (L)			Grinding Stone (U)		
Metal	X		Ceramics (Pottery)			Ceramics (Porcelain)	X	
Metal slag			Tuyere			Fauna		
Bead (OES / Shell)			Glass	X		Lithics	X	
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			X

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the history of South Africa.				
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		
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]				
C. SPHERE OF SIGNIFICANCE		High	Medium	Low
International				
National				
Provincial				
Local		X		
Specific community				
E. GENERAL STATEMENT OF SITE SIGNIFICANCE				
Low				
Medium				X
High				
F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT				
NATURE OF IMPACT: HISTORICAL, AESTHETIC, SOCIAL, SCIENTIFIC, ARCHITECTURAL & VISUAL.				
APPROXIMATE DISTANCE FROM DEVELOPMENT: 1000+ METERS				
General assessment of impacts on resource (Refer to Section 7.3.1)		Without Management*	With Management*	
	Extent	Local	Local	
	Duration	Sort Term: Medium	Sort Term: Low	
	Intensity	Medium	Low	
	Probability	Probable	Improbable	
	Confidence	High	High	
	Impact Significance	Medium	Low	
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)			
Direct impact rating (Refer to Section 7.3.2) <small>Note that a default "Little or no heritage impact expected" value applies where a heritage resource occurs outside the impact matrix of the development.</small>			High heritage impact	
G. RECOMMENDED MANAGEMENT* (REFER TO SECTION 7.3.3)				
Mitigation				
Comments on recommended management				
If further impact is envisaged: <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. 				
H. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS				

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- National Heritage Resources Act (Act no. 25 of 1999)
- Local and regional provisions, laws and by-laws

- Site HP04, Site HP05, Site HP06, Site HP08

1. SITE DESCRIPTION : Ruins of brick and mud structures

1.1 General Site Description

A large number of poorly preserved brick and mud structures, stone wall enclosures and middens.

1.2 Site features / artefacts / Other

Site Location

Province / District	Limpopo Province	Map Number	2329DA, 2329CB		
Farm Name	Makotopong 1200LS	Co-ordinates	S23°38'22.22" S23°38'24.60" S23°39'00.71" S23°37'27.27"	E29°36'04.91" E29°35'43.53" E29°35'04.52" E29°34'46.01"	

Site Type

Surface sites	<input checked="" type="checkbox"/>	Caves and rock shelters	
Larger open-air sites		Sealed sites (deposits)	
River deposits		Other	

Site Function

Living / habitation	<input checked="" type="checkbox"/>	Kill	
Ceremonial		Burial	
Trading / Barter		Art	
Quarry / Mining / Smelting		Other	

Site Placement

Valley floor		Hill top		Vlei/swamp		River Mouth	
Dam		River Bank		Slope	<input checked="" type="checkbox"/>	Plains	<input checked="" type="checkbox"/>
Other / Comments							

Vegetation

Riverine forest		Bushveld		Savannah		Mountain forest	
Thornveld	<input checked="" type="checkbox"/>	Grassland	<input checked="" type="checkbox"/>	Cultivated	<input checked="" type="checkbox"/>	Other	

Age Classification

Stone Age		Early Iron Age		Middle Iron Age		Later Iron Age	
Historical	<input checked="" type="checkbox"/>	Other	<input checked="" type="checkbox"/>	X – recent			

Material Culture

Midden	<input checked="" type="checkbox"/>	House Remains	<input checked="" type="checkbox"/>	Stone Walling		Stone Structures	<input checked="" type="checkbox"/>
Granary		Grinding Stone (L)		Grinding Stone (U)		Granary Stand	
Metal	<input checked="" type="checkbox"/>	Ceramics (Pottery)		Ceramics (Porcelain)		Stone (non-lithic)	<input checked="" type="checkbox"/>
Metal slag		Tuyere		Fauna		Bead (Glass)	
Bead (OES / Shell)		Glass	<input checked="" type="checkbox"/>	Lithics	<input checked="" type="checkbox"/>	Smelting Residues	
Other:							

1.3 Site Condition

The site integrity has been severely compromised as sites have been ruined almost entirely.

2. SITE EVALUATION

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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	

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]	

C. SPHERE OF SIGNIFICANCE

	High	Medium	Low
International			
National			
Provincial			
Local			X
Specific community			

E. GENERAL STATEMENT OF SITE SIGNIFICANCE

Low		X
Medium		
High		

F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT

NATURE OF IMPACT: HISTORICAL, SOCIAL, INTRINSIC, ASSOCIATIONAL

APPROXIMATE DISTANCE FROM DEVELOPMENT: 0 – 100 METERS

		Without Management*	With Management*
General assessment of impacts on resource (Refer to Section 7.3.1)	Extent	Local	Local
	Duration	Sort Term: Low	Sort Term: Low
	Intensity	Low	Low
	Probability	Improbable	Improbable
	Confidence	High	High

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	Impact Significance	Low	Low
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) <small>Note that a default "Little or no heritage impact expected" value applies where a heritage resource occurs outside the impact matrix of the development.</small>			Moderate heritage impact
G. RECOMMENDED MANAGEMENT* (REFER TO SECTION 7.3.3)			
Monitoring			
Comments on recommended management			
If further impact is envisaged:			
<ul style="list-style-type: none"> - Documentation of sites - Site monitoring during development, by an ECO or the heritage specialist. 			
H. 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 HP07**

1. SITE DESCRIPTION : Historical Period Structures							
1.1 General Site Description							
The recent Roodewal farmstead, farm buildings and sheds as well as a large labourer's hostel compound.							
1.2 Site features / artefacts / Other							
Site Location							
Province / Dsitrict	Limpopo Province			Map Number	2329DA, 2329CB		
Farm Name	Makotopong 1200LS			Co-ordinates	S23°39'22.12" S23°38'30.86"	E29°35'40.77" E29°36'12.66"	
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			
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		Savannah		Mountain forest	
Thornveld	X	Grassland	X	Cultivated	X	Other	
Age Classification							
Stone Age		Early Iron Age		Middle Iron Age		Later Iron Age	
Historical		Other	X - recent				
Material Culture							

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

1.3 Site Condition

The site integrity is good and structures are currently maintained.

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	

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]	

C. SPHERE OF SIGNIFICANCE

	High	Medium	Low
International			
National			
Provincial			
Local		X	
Specific community			

E. GENERAL STATEMENT OF SITE SIGNIFICANCE

Low	
Medium	X

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High			
F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT			
NATURE OF IMPACT: HISTORICAL, AESTHETIC, SOCIAL, SCIENTIFIC, ARCHITECTURAL, ASSOCIATIONAL & VISUAL			
APPROXIMATE DISTANCE FROM DEVELOPMENT: 1000+ METERS			
General assessment of impacts on resource (Refer to Section 7.3.1)		Without Management*	With Management*
	Extent	Local	Local
	Duration	Sort Term: Medium	Sort Term: Low
	Intensity	Medium	Low
	Probability	Probable	Improbable
	Confidence	High	High
	Impact Significance	Medium	Low
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) <small>Note that a default "Little or no heritage impact expected" value applies where a heritage resource occurs outside the impact matrix of the development.</small>		Medium heritage impact	
G. RECOMMENDED MANAGEMENT* (REFER TO SECTION 7.3.3)			
Monitoring			
Comments on recommended management			
If further impact is envisaged: - Documentation of sites - Site monitoring during development, by an ECO or the heritage specialist.			
H. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS			
- National Heritage Resources Act (Act no. 25 of 1999) - Local and regional provisions, laws and by-laws			

- Site HP09, HP10, HP11

1. SITE DESCRIPTION : Ruins of brick and mud structures				
1.1 General Site Description				
A number of poorly preserved brick and mud structures, stone wall enclosures and middens.				
1.2 Site features / artefacts / Other				
Site Location				
Province / Dsitrict	Limpopo Province	Map Number	2329DA, 2329CB	
Farm Name	Kalkfontein 615LS	Co-ordinates	S23°41'55.79" S23°41'46.39" S23°41'49.02"	E29°27'33.74" E29°28'47.54" E29°29'20.76"
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				

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Valley floor		Hill top		Vlei/swamp		River Mouth	
Dam		River Bank		Slope	X	Plains	X
Other / Comments							
Vegetation							
Riverine forest		Bushveld		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		Stone Structures	X
Granary		Grinding Stone (L)		Grinding Stone (U)		Granary Stand	
Metal	X	Ceramics (Pottery)		Ceramics (Porcelain)		Stone (non-lithic)	X
Metal slag		Tuyere		Fauna		Bead (Glass)	
Bead (OES / Shell)		Glass	X	Lithics	X	Smelting Residues	
Other:				Other:			
1.3 Site Condition							
The site integrity has been severely compromised as sites have been ruined almost entirely.							
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		
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]							

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C. SPHERE OF SIGNIFICANCE	High	Medium	Low
International			
National			
Provincial			
Local			X
Specific community			

E. GENERAL STATEMENT OF SITE SIGNIFICANCE
Low
Medium
High

F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT

NATURE OF IMPACT: HISTORICAL, SOCIAL, INTRINSIC, ASSOCIATIONAL			
APPROXIMATE DISTANCE FROM DEVELOPMENT: 0 – 500 METERS			
	Without Management*	With Management*	
General assessment of impacts on resource (Refer to Section 7.3.1)	Extent	Local	Local
	Duration	Sort Term: Low	Sort Term: Low
	Intensity	Low	Low
	Probability	Improbable	Improbable
	Confidence	High	High
	Impact Significance	Low	Low
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) <small>Note that a default "Little or no heritage impact expected" value applies where a heritage resource occurs outside the impact matrix of the development.</small>		Moderate heritage impact	

G. RECOMMENDED MANAGEMENT* (REFER TO SECTION 7.3.3)

Monitoring
Comments on recommended management
If further impact is envisaged:
- Documentation of sites
- Site monitoring during development, by an ECO or the heritage specialist.

H. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS

- National Heritage Resources Act (Act no. 25 of 1999)
- Local and regional provisions, laws and by-laws

- Site BP01

1. SITE DESCRIPTION : Large cemetery.

1.1 General Site Description

Makotopong community cemetery.

1.2 Site features / artefacts / Other

Site Location			
Province / Dsitrict	Limpopo Province	Map Number	2329DA, 2329CB
Farm Name	Makotopong 1200LS	Co-ordinates	S23°38'52.05" E29°37'03.55"
Site Type			
Surface sites	X	Caves and rock shelters	

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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	
		Savannah	
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:	

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	

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]			
C. SPHERE OF SIGNIFICANCE	High	Medium	Low
International			
National			
Provincial			
Local	X		
Specific community			
E. GENERAL STATEMENT OF SITE SIGNIFICANCE			
Low			
Medium			
High			X
F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT			
NATURE OF IMPACT: HISTORICAL, AESTHETIC, SOCIAL, SCIENTIFIC, , INTRINSIC, ASSOCIATIONAL & CONTEXTUAL			
APPROXIMATE DISTANCE FROM DEVELOPMENT: 2000+ METERS			
General assessment of impacts on resource (Refer to Section 7.3.1)		Without Management*	With Management*
	Extent	Local	Local
	Duration	Sort Term: High	Sort Term: Low
	Intensity	High	Low
	Probability	Probable	Improbable
	Confidence	High	High
	Impact Significance	High	Low
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) <small>Note that a default "Little or no heritage impact expected" value applies where a heritage resource occurs outside the impact matrix of the development.</small>		high heritage impact	
G. RECOMMENDED MANAGEMENT* (REFER TO SECTION 7.3.3)			
Mitigation / Avoidance			
Comments on recommended management			
If further impact is envisaged: <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. 			
H. 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 			

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- National Heritage Resources Act (Act no. 25 of 1999)
- Permit from SAHRA for removal

- Site BP02

1. SITE DESCRIPTION : Informal Burial Place

1.1 General Site Description

Large informal cemetery.

1.2 Site features / artefacts / Other

Site Location

Province / Dsitrict	Limpopo Province	Map Number	2329DA, 2329CB	
Farm Name	Makotopong 1200LS	Co-ordinates	S23°37'14.37"	E29°36'26.97"

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		Plains	X
Other / Comments							

Vegetation

Riverine forest		Bushveld		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		Smelting Residues	
Other: X - grave dressing				Other:			

1.3 Site Condition

The site integrity is good as the burials are of relatively 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		X	

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natural and cultural heritage.			
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	

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]	

C. SPHERE OF SIGNIFICANCE

	High	Medium	Low
International			
National			
Provincial			
Local	X		
Specific community			

E. GENERAL STATEMENT OF SITE SIGNIFICANCE

Low	
Medium	
High	X

F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT

NATURE OF IMPACT: HISTORICAL, AESTHETIC, SOCIAL, SCIENTIFIC, , INTRINSIC, ASSOCIATIONAL & CONTEXTUAL

APPROXIMATE DISTANCE FROM DEVELOPMENT: 1000+ METERS

		Without Management*	With Management*
General assessment of impacts on resource (Refer to Section 7.3.1)	Extent	Local	Local
	Duration	Sort Term: High	Sort Term: Low
	Intensity	High	Low
	Probability	Probable	Improbable
	Confidence	High	High
	Impact Significance	High	Low
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)		

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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 the impact matrix of the development.

High heritage impact

G. RECOMMENDED MANAGEMENT* (REFER TO SECTION 7.3.3)

Avoidance / Enhancement

Comments on recommended management

If further impact is envisaged:

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

H. 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 BP03**

1. SITE DESCRIPTION : Ruigedraai Family Cemetery

1.1 General Site Description

Ruigedraai family cemetery.

1.2 Site features / artefacts / Other

Site Location

Province / Dsitrict	Limpopo Province	Map Number	2329DA, 2329CB	
Farm Name	Makotopong 1200LS	Co-ordinates	S23°37'19.82"	E29°36'36.01"

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		Plains	X
Other / Comments							

Vegetation

Riverine forest		Bushveld		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	
--------	--	---------------	--	---------------	--	------------------	--

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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:				

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	

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]	

C. SPHERE OF SIGNIFICANCE

	High	Medium	Low
International			
National			
Provincial			
Local	X		
Specific community			

E. GENERAL STATEMENT OF SITE SIGNIFICANCE

Low	
Medium	
High	X

F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT

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NATURE OF IMPACT: HISTORICAL, AESTHETIC, SOCIAL, SCIENTIFIC, , INTRINSIC, ASSOCIATIONAL & CONTEXTUAL			
APPROXIMATE DISTANCE FROM DEVELOPMENT: 1000+ METERS			
General assessment of impacts on resource (Refer to Section 7.3.1)		Without Management*	With Management*
	Extent	Local	Local
	Duration	Sort Term: High	Sort Term: Low
	Intensity	High	Low
	Probability	Probable	Improbable
	Confidence	High	High
	Impact Significance	High	Low
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) <small>Note that a default "Little or no heritage impact expected" value applies where a heritage resource occurs outside the impact matrix of the development.</small>		High heritage impact	
G. RECOMMENDED MANAGEMENT* (REFER TO SECTION 7.3.3)			
Avoidance / Enhancement			
Comments on recommended management			
If further impact is envisaged: <ul style="list-style-type: none"> - Documentation of site. - Full social consultation. - Possible conservation management and protection measures. - Relevant Permitting from Heritage Resources Authority. 			
H. 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 BP04, BP05, BP07, BP08, BP09

1. SITE DESCRIPTION : Informal Burial Places				
1.1 General Site Description				
Informal cemeteries, graves are unmarked but demarcated with stone heaps.				
1.2 Site features / artefacts / Other				
Site Location				
Province / Dsitrict	Limpopo Province	Map Number	2329DA, 2329CB	
Farm Name	Makotopong 1200LS	Co-ordinates	S23°38'34.89" S23°38'30.00" S23°38'25.32" S23°38'28.55" S23°39'12.45"	E29°36'15.25" E29°36'06.71" E29°35'39.45" E29°35'04.91" E29°35'19.40"
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	
		Vlei/swamp	
		River Mouth	
Dam		River Bank	
		Slope	
		Plains	X
Other / Comments			
Vegetation			
Riverine forest		Bushveld	
		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	
		Smelting Residues	
Other: X – grave dressing		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	
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]			

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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]			
C. SPHERE OF SIGNIFICANCE			
	High Medium Low		
International			
National			
Provincial			
Local	X		
Specific community			
E. GENERAL STATEMENT OF SITE SIGNIFICANCE			
Low			
Medium			
High	X		
F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT			
NATURE OF IMPACT: HISTORICAL, AESTHETIC, SOCIAL, SCIENTIFIC, , INTRINSIC, ASSOCIATIONAL & CONTEXTUAL			
APPROXIMATE DISTANCE FROM DEVELOPMENT: 0-100 METERS			
General assessment of impacts on resource (Refer to Section 7.3.1)	Without Management*	With Management*	
	Extent	Local	Local
	Duration	Sort Term: High	Sort Term: Low
	Intensity	High	Low
	Probability	Probable	Improbable
	Confidence	High	High
Impact Significance	High	Low	
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) <small>Note that a default "Little or no heritage impact expected" value applies where a heritage resource occurs outside the impact matrix of the development.</small>		Very high heritage impact	
G. RECOMMENDED MANAGEMENT* (REFER TO SECTION 7.3.3)			
Avoidance / Enhancement			
Comments on recommended management			
If further impact is envisaged: <ul style="list-style-type: none"> - Documentation of site. - Full social consultation. - Possible conservation management and protection measures. - Relevant Permitting from Heritage Resources Authority. 			
H. 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 BP06

1. SITE DESCRIPTION : Informal Burial Place								
1.1 General Site Description								
Informal cemetery containing 3 graves marked with cement headstones and grave dressing.								
1.2 Site features / artefacts / Other								
Site Location								
Province / Dsitrict	Limpopo Province			Map Number	2329DA, 2329CB			
Farm Name	Kalkfontein 615LS			Co-ordinates	S23°38'24.38"	E29°35'58.69		
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		
Dam			River Bank			Slope	Plains	X
Other / Comments								
Vegetation								
Riverine forest			Bushveld			Savannah		
Thornveld	X		Grassland	X		Cultivated	X	
						Other		
Age Classification								
Stone Age			Early Iron Age			Middle Iron Age		
Historical	X		Other	X - recent				
Material Culture								
Midden			House Remains			Stone Walling		
Granary			Grinding Stone (L)			Grinding Stone (U)		
Metal			Ceramics (Pottery)			Ceramics (Porcelain)		
Metal slag			Tuyere			Fauna		
Bead (OES / Shell)			Glass			Lithics		
Other: X – grave dressing				Other:				
1.3 Site Condition								
The site integrity is fair as graves have been maintained.								
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	
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]			
C. SPHERE OF SIGNIFICANCE			
	High	Medium	Low
International			
National			
Provincial			
Local	X		
Specific community			
E. GENERAL STATEMENT OF SITE SIGNIFICANCE			
Low			
Medium			
High			X
F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT			
NATURE OF IMPACT: HISTORICAL, AESTHETIC, SOCIAL, SCIENTIFIC, , INTRINSIC, ASSOCIATIONAL & CONTEXTUAL			
APPROXIMATE DISTANCE FROM DEVELOPMENT: 0-100 METERS			
General assessment of impacts on resource (Refer to Section 7.3.1)		Without Management*	With Management*
	Extent	Local	Local
	Duration	Sort Term: High	Sort Term: Low
	Intensity	High	Low
	Probability	Probable	Improbable
	Confidence	High	High
	Impact Significance	High	Low
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) <small>Note that a default "Little or no heritage impact expected" value applies where a heritage resource occurs outside the impact matrix of the development.</small>		Very high heritage impact	

G. RECOMMENDED MANAGEMENT* (REFER TO SECTION 7.3.3)**Avoidance / Enhancement****Comments on recommended management****If further impact is envisaged:**

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

H. 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 BP10, BP11

1. SITE DESCRIPTION : Informal Burial Place**1.1 General Site Description**

Informal burials, graves demarcated with marked cement grave dressing and stone heaps.

1.2 Site features / artefacts / Other**Site Location**

Province / Dsitrict	Limpopo Province	Map Number	2329DA, 2329CB	
Farm Name	Kalkfontein 615LS	Co-ordinates	S23°41'47.34" S23°41'46.95"	E29°28'41.39" E29°28'41.46"

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		Plains	X
Other / Comments							

Vegetation

Riverine forest		Bushveld		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	

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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:			

1.3 Site Condition

The site integrity fair but the concrete grave dressing have collapsed in places.

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	

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]	

C. SPHERE OF SIGNIFICANCE

	High	Medium	Low
International			
National			
Provincial			
Local	X		
Specific community			

E. GENERAL STATEMENT OF SITE SIGNIFICANCE

Low	
Medium	
High	X

F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT

NATURE OF IMPACT: HISTORICAL, AESTHETIC, SOCIAL, SCIENTIFIC, , INTRINSIC, ASSOCIATIONAL & CONTEXTUAL

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APPROXIMATE DISTANCE FROM DEVELOPMENT: 1000 METERS

		Without Management*	With Management*
General assessment of impacts on resource (Refer to Section 7.3.1)	Extent	Local	Local
	Duration	Sort Term: High	Sort Term: Low
	Intensity	High	Low
	Probability	Probable	Improbable
	Confidence	High	High
	Impact Significance	High	Low
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) <small>Note that a default "Little or no heritage impact expected" value applies where a heritage resource occurs outside the impact matrix of the development.</small>		High heritage impact	

G. RECOMMENDED MANAGEMENT* (REFER TO SECTION 7.3.3)

Avoidance / Enhancement

Comments on recommended management

If further impact is envisaged:

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

H. 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 BP12

1. SITE DESCRIPTION : Informal Burial Place

1.1 General Site Description

Single grave, marked with inscribed headstone and grave dressing.

1.2 Site features / artefacts / Other

Site Location

Province / Dsitrict	Limpopo Province	Map Number	2329DA, 2329CB	
Farm Name	Kalkfontein 615LS	Co-ordinates	S23°41'57.69"	E29°29'24.32"

Site Type

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

Site Function

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

Site Placement

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Valley floor		Hill top		Vlei/swamp		River Mouth	
Dam		River Bank		Slope		Plains	X
Other / Comments							
Vegetation							
Riverine forest		Bushveld		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					
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		Smelting Residues	
Other: X – grave dressing				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		
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]							

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C. SPHERE OF SIGNIFICANCE	High	Medium	Low
International			
National			
Provincial			
Local	X		
Specific community			

E. GENERAL STATEMENT OF SITE SIGNIFICANCE
Low
Medium
High

F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT		
NATURE OF IMPACT: HISTORICAL, AESTHETIC, SOCIAL, SCIENTIFIC, , INTRINSIC, ASSOCIATIONAL & CONTEXTUAL		
APPROXIMATE DISTANCE FROM DEVELOPMENT: 1500+ METERS		
	Without Management*	With Management*
General assessment of impacts on resource (Refer to Section 7.3.1)	Extent Local	Local
	Duration Sort Term: High	Sort Term: Low
	Intensity High	Low
	Probability Probable	Improbable
	Confidence High	High
	Impact Significance High	Low

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) <small>Note that a default "Little or no heritage impact expected" value applies where a heritage resource occurs outside the impact matrix of the development.</small>		High heritage impact

G. RECOMMENDED MANAGEMENT* (REFER TO SECTION 7.3.3)
Avoidance / Enhancement
Comments on recommended management
<p>If further impact is envisaged:</p> <ul style="list-style-type: none"> - Documentation of site. - Full social consultation. - Possible conservation management and protection measures. - Relevant Permitting from Heritage Resources Authority.

H. 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 BP13

1. SITE DESCRIPTION : Old Kalkfontein Cemetery
1.1 General Site Description
Old Kalkfontein family cemetery containing 4 graves.
1.2 Site features / artefacts / Other

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Site Location								
Province / Dsitrict	Limpopo Province			Map Number	2329DA, 2329CB			
Farm Name	Kalkfontein 615LS			Co-ordinates	S23°42'41.36"	E29°29'01.31"		
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		
Dam			River Bank	X		Slope		
Other / Comments								
Vegetation								
Riverine forest			Bushveld			Savannah		
Thornveld			Grassland			Cultivated	X	
Other								
Age Classification								
Stone Age			Early Iron Age			Middle Iron Age		
Historical	X		Other					
Material Culture								
Midden			House Remains			Stone Walling		
Granary			Grinding Stone (L)			Grinding Stone (U)		
Metal			Ceramics (Pottery)			Ceramics (Porcelain)		
Metal slag			Tuyere			Fauna		
Bead (OES / Shell)			Glass			Lithics		
Other: X – grave dressing								
Other:								
1.3 Site Condition								
The site integrity is poor as the graves have been largely damaged.								
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							X	

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the history of South Africa.				
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		
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]				
C. SPHERE OF SIGNIFICANCE		High	Medium	Low
International				
National				
Provincial				
Local	X			
Specific community				
E. GENERAL STATEMENT OF SITE SIGNIFICANCE				
Low				
Medium				
High			X	
F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT				
NATURE OF IMPACT: HISTORICAL, AESTHETIC, SOCIAL, SCIENTIFIC, , INTRINSIC, ASSOCIATIONAL & CONTEXTUAL				
APPROXIMATE DISTANCE FROM DEVELOPMENT: 3000+ METERS				
General assessment of impacts on resource (Refer to Section 7.3.1)		Without Management*	With Management*	
	Extent	Local	Local	
	Duration	Sort Term: High	Sort Term: Low	
	Intensity	High	Low	
	Probability	Probable	Improbable	
	Confidence	High	High	
	Impact Significance	Moderate	Low	
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) <small>Note that a default "Little or no heritage impact expected" value applies where a heritage resource occurs outside the impact matrix of the development.</small>		Moderate heritage impact		
G. RECOMMENDED MANAGEMENT* (REFER TO SECTION 7.3.3)				
Avoidance / Enhancement				
Comments on recommended management				
If further impact is envisaged: <ul style="list-style-type: none"> - Documentation of site. - Full social consultation. - Possible conservation management and protection measures. - Relevant Permitting from Heritage Resources Authority. 				

H. 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 BP14

1. SITE DESCRIPTION : Informal Burial Place**1.1 General Site Description**

Single grave, marked with inscribed headstone and grave dressing.

1.2 Site features / artefacts / Other**Site Location**

Province / District	Limpopo Province	Map Number	2329DA, 2329CB	
Farm Name	Kalkfontein 615LS	Co-ordinates	S23°41'57.05"	E29°28'00.68"

Site Type

Surface sites	<input checked="" type="checkbox"/>	Caves and rock shelters	
Larger open-air sites		Sealed sites (deposits)	
River deposits		Other	

Site Function

Living / habitation		Kill	
Ceremonial		Burial	<input checked="" type="checkbox"/>
Trading / Barter		Art	
Quarry / Mining / Smelting		Other	

Site Placement

Valley floor		Hill top		Vlei/swamp		River Mouth	
Dam		River Bank	<input checked="" type="checkbox"/>	Slope		Plains	<input checked="" type="checkbox"/>
Other / Comments							

Vegetation

Riverine forest		Bushveld		Savannah		Mountain forest	
Thornveld	<input checked="" type="checkbox"/>	Grassland	<input checked="" type="checkbox"/>	Cultivated	<input checked="" type="checkbox"/>	Other	

Age Classification

Stone Age		Early Iron Age		Middle Iron Age		Later Iron Age	
Historical	<input checked="" type="checkbox"/>	Other	<input checked="" type="checkbox"/> - 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		Smelting Residues	
Other: X – grave dressing				Other:			

1.3 Site Condition

The site integrity is good as the burial is maintained.

2. SITE EVALUATION

Wayland Iron Ore Mine: Archaeological Impact Assessment Report

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	

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]	

C. SPHERE OF SIGNIFICANCE

	High	Medium	Low
International			
National			
Provincial			
Local	X		
Specific community			

E. GENERAL STATEMENT OF SITE SIGNIFICANCE

Low	
Medium	
High	X

F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT

NATURE OF IMPACT: HISTORICAL, AESTHETIC, SOCIAL, SCIENTIFIC, , INTRINSIC, ASSOCIATIONAL & CONTEXTUAL

APPROXIMATE DISTANCE FROM DEVELOPMENT: 1000 METERS

		Without Management*	With Management*
General assessment of impacts on resource (Refer to Section 7.3.1)	Extent	Local	Local
	Duration	Sort Term: High	Sort Term: Low
	Intensity	High	Low
	Probability	Probable	Improbable
	Confidence	High	High

Wayland Iron Ore Mine: Archaeological Impact Assessment Report

	Impact Significance	High		Low
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) <small>Note that a default "Little or no heritage impact expected" value applies where a heritage resource occurs outside the impact matrix of the development.</small>			High heritage impact	

G. RECOMMENDED MANAGEMENT* (REFER TO SECTION 7.3.3)

Avoidance / Enhancement

Comments on recommended management

If further impact is envisaged:

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

H. 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 MS01, MS02, MS03, MS04**

1. SITE DESCRIPTION : Small Mica Mining Sites

1.1 General Site Description

The remains of small scale mica mining.

1.2 Site features / artefacts / Other

Site Location

Province / District	Limpopo Province	Map Number	2329DA, 2329CB	
Farm Name	Kalkfontein 615LS	Co-ordinates	S23°41'33.75" S23°41'28.67" S23°41'36.82" S23°41'32.34"	E29°28'32.07" E29°29'05.74" E29°27'57.51" E29°27'29.33"

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	X	Other	

Site Placement

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

Vegetation

Riverine		Bushveld		Savannah		Mountain forest	
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Wayland Iron Ore Mine: Archaeological Impact Assessment Report

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	X	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 – rondavels				Other:			
1.3 Site Condition							
The site integrity cannot be established.							
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	
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			
C. SPHERE OF SIGNIFICANCE				High	Medium	Low	
International							
National							
Provincial							

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Local			X
Specific community			
E. GENERAL STATEMENT OF SITE SIGNIFICANCE			
Low			X
Medium			
High			
F. RATING OF POTENTIAL IMPACT OF DEVELOPMENT			
NATURE OF IMPACT: AESTHETIC, SOCIAL, ARCHITECTURAL, CONTEXTUAL & VISUAL			
APPROXIMATE DISTANCE FROM DEVELOPMENT: 50METERS			
General assessment of impacts on resource (Refer to Section 7.3.1)		Without Management*	With Management*
	Extent	Local	Local
	Duration	Sort Term: Medium	Sort Term: Low
	Intensity	Medium	Low
	Probability	Probable	Improbable
	Confidence	High	High
	Impact Significance	Medium	Low
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) <small>Note that a default "Little or no heritage impact expected" value applies where a heritage resource occurs outside the impact matrix of the development.</small>		Moderate heritage impact	
G. RECOMMENDED MANAGEMENT* (REFER TO SECTION 7.3.3)			
Monitoring.			
Comments on recommended management			
If further impact is envisaged: - Documentation of sites - Site monitoring during development, by an ECO or the heritage specialist.			
H. APPLICABLE LEGISLATION AND LEGAL REQUIREMENTS			
- National Heritage Resources Act (Act no. 25 of 1999) - Local and regional provisions, laws and by-laws			

7.4 Discussion: Evaluation of Results and Impacts

Previous studies conducted in this section of the Limpopo Province all infer a rich and diverse archaeological landscape, representative of most phases of human and cultural development in southern Africa. The following assessment impact discussion more clearly describes to extent of heritage significance and impact on resources, cognisant of this rich larger archae-historical landscape.

The Kalkfontein Stone Age occurrence at **Site SA01** and its cultural context might be of notable research value and these occurrences are therefore of medium significance. The impact on the site by the proposed activity will be local, and of permanent duration where in essence, the impact will result the possible confusing of the archaeological context and potential loss of archaeological structures and material. The site will be also sterilized of any future heritage research opportunities. However, the threshold of the impact can be limited by the implementation of mitigation measures for the site. The MSA debris flakes noted elsewhere in the study area are of low significance.

The Iron Age farmer sites on Makotopong at **Site IA01** and **Site IA02** is of medium significance as the sites might yield an understanding of the development and spread of the later Farmer Period in the larger landscape and in the Limpopo Province. The impact on the sites by the proposed activity will be local, and of permanent duration where in essence, the impact will result the possible confusing of the archaeological context and potential loss of archaeological structures and material. The sites might also be also sterilized of any future heritage research opportunities. However, the threshold of the impact can be limited by the implementation of mitigation measures for the sites.

The scientific value and significance of the Iron Age occurrences at **Site IA03**, **Site IA04** and **Site IA05** on Makotopong is probably limited, due to the absence of related archaeological material in these loci. However, the provenance of the sites is not known and its significance rating might change according to further investigations of the sites. The impact of the proposed activity will be local, and of permanent duration, but of relatively low significance. The essence of the impact in archaeological terms will be the potential loss of archaeological structures and material, as well as the sterilization of any of the site in terms of future heritage research opportunities.

Similarly, the Iron Age occurrences at **Site IA06** and **Site IA07** on Kalkfontein are probably limited, due to the absence of related archaeological material. Since the provenances of the structures are not known, their significance ratings might change according to further investigations of the sites. The impact of the proposed activity will be local, and of permanent duration, but of relatively low significance. The essence of the impact in archaeological terms will be the potential loss of archaeological structures and material, as well as the sterilization of any of the site in terms of future heritage research opportunities.

At Kalkfontein, the Iron Age farmer sites at **Site IA08** and **Site IA09** is also of medium significance as the sites might add to our current knowledge of the later Farmer Period in the larger landscape and in the Limpopo Province. The impact on the sites by the proposed activity will be local, and of permanent duration where in essence, the impact will result the possible confusing of the archaeological context and potential loss of archaeological structures and material. The sites will be also sterilized of any future heritage research opportunities. However, the threshold of the impact can be limited by the implementation of mitigation measures for the sites.

The Historical Period Mission Station structure at **Site HP01** on Mokotopong is of high significance as the site might yield a valuable understanding of the Missionary history of the Limpopo Province, as well as historical architectural and settlement developments in the larger landscape. According to indications, the proposed development will occur some distance from the site and the impact on the site by the proposed mining activities will be peripheral. Nonetheless, it is essential that the threshold of the impact be limited by the implementation of management measures for the site, if / when required.

The remains of mud brick houses occurring around the Mission house at **Site HP02** on Mokotopong are of medium significance since these structures can be related to the historical context of the Mission. The proposed development will occur some distance from the site and the impact on the sites by the proposed mining activities will be peripheral. However, the threshold of the impact on these structures should be limited by the implementation of mitigation measures for the sites, if / when required.

The poorly preserved Ruigedraai homestead at **Site HP03** on Mokotopong is of medium significance as the site

might yield more information on historical architectural and settlement developments in the larger landscape. According to indications, the proposed mining development will occur some distance from the site and the impact on the site by the proposed mining activities will be peripheral. Nonetheless, the threshold of possible impacts should be limited by the implementation of mitigation and conservation measures for the site, if / when required.

The poorly preserved brick and mud structures, stone wall enclosures and middens scattered across Makotopong and Kalkfontein at **Site HP04, Site HP05, Site HP06, Site HP08, Site HP09, Site HP10 and Site HP11** are of medium-low significance due to the poor preservation of the sites. The impact on the sites by the proposed activity will be local, and of permanent duration where in essence, the impact will result the potential damage / loss of the sites.

The recent Roodewal farmstead, farm buildings and sheds as well as the labourer's hostel compound at **Site HP07** are of recent age and they carry a low significance rating. The site is situated some distance from the proposed mining activities and impact on this structure is not significant the impact is deemed to be of low significance.

The cemeteries on the outskirts of Makotopong at **Site BP01, Site BP02 and Site BP03**, as well as graves further away from proposed mining activities on Kalkfontein at **Site BP12 and Site BP13** are of heritage priority and carry high significance ratings. However, the proposed development will occur some distance from the sites and the impact on the sites by the proposed mining activities will be peripheral. However, the threshold of the impact on these structures should be limited by the implementation of mitigation / management measures for the sites, if / when required.

Similarly, **Site BP04, Site BP05, Site BP06, Site BP07, Site BP08 and Site BP09** on Makotopong and **Site BP10, Site BP11 and Site BP14** on Kalkfontein, are heritage priority and carry a high significance ratings. The impact on the sites by the proposed activity will be local, and of permanent duration where in essence, the impact might result the destruction / disturbance of the burials. It is essential that the threshold of the impact be managed by means of the implementation of mitigation / avoidance measures for the sites.

The scientific and research value of the small scale mining sites on Kalkfontein (**Site MS01, MS02, MS03 and MS04**) is probably limited, due to the relative recent age of the sites and the poor preservation of the sites. However, a more detailed provenance of the sites is not known and its significance rating might change according to further investigations of the sites. The impact of the proposed activity will be local, and of permanent duration, but of relatively low significance. The essence of the impact in archaeological terms might be stated as the potential loss of heritage resources and material, as well as the sterilization of any of the site in terms of future heritage research opportunities.

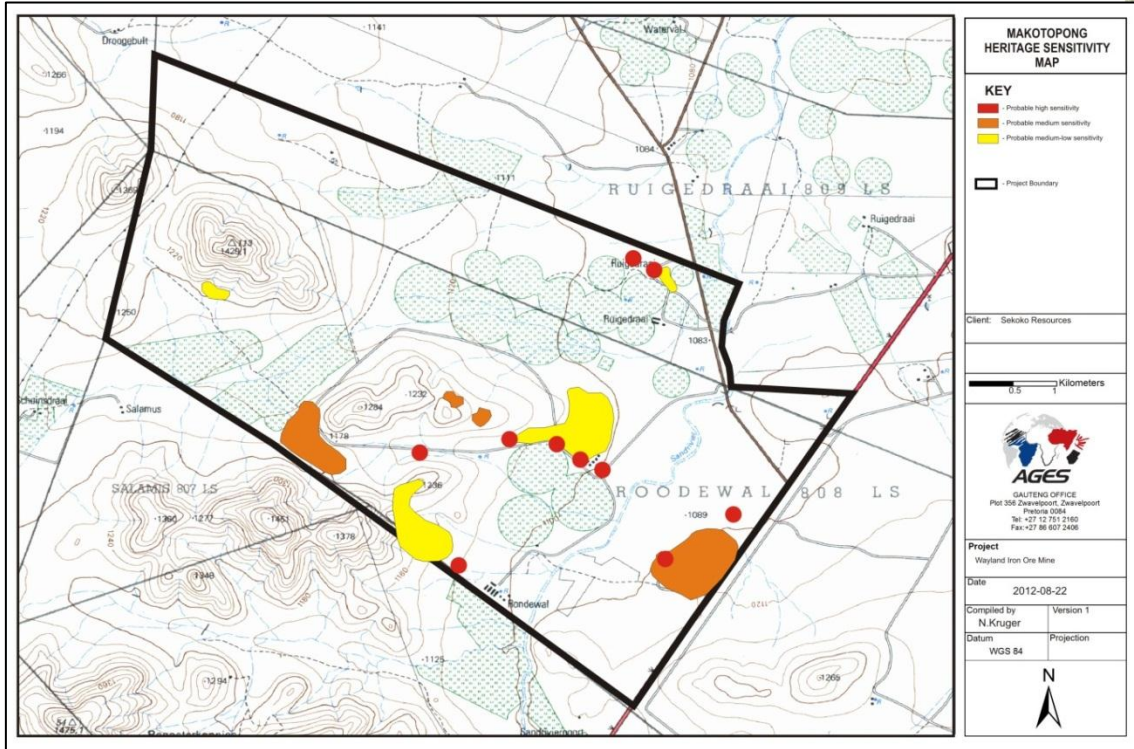


Figure 7-1: Heritage sensitivity map for the farm Makotopong.

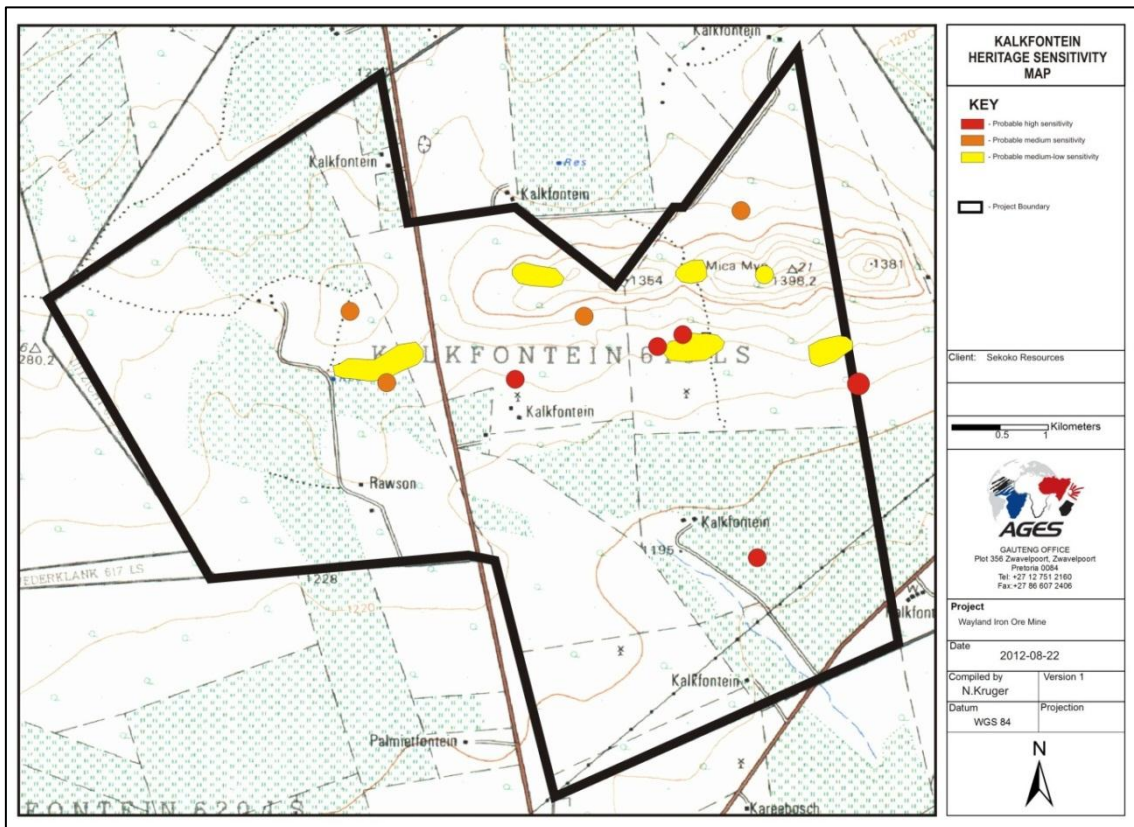


Figure 7-2: Heritage sensitivity map for the farm Kalkfontein.

8 RECOMMENDATIONS

The larger landscape around Mokotopong and Kalkfontein 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 general observations in the proposed Wayland Iron Ore Mine Project Area:

- Since the palaeontological sensitivity of rock units within the study area is generally low the impact significance of the proposed prospecting 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 be 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.
- Access onto a portion of Mokotopong (formerly Portion 5 of the farm Ruigedraai 809LS) could not be obtained and consequently this area could not be surveyed. It is recommended that this Portion be archaeologically surveyed in order to accurately establish the presence of heritage resources, if the area were to be included in mining development areas.
- Considering the large extent of the Study Area and the localised nature of heritage remains, a careful watching brief monitoring process is recommended for all stages of the project, specifically around heritage sensitive areas i.e. MSA scatters, Iron Age sites, 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.
- The MSA quartz stone lithic scatter on Kalkfontein (**Site SA01**) is of medium significance and it is recommended that a limited Phase 2 Specialist Study be conducted prior to the commencement of development in this area. This process should minimally include the recording of the larger MSA cultural context by means of a more comprehensive area survey, surface sampling and consequent analysis of the stone artefacts by a suitably qualified Stone Age archaeologist. 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. A small number of MSA debris flakes noted on the farm Makotopong 1200LS, scattered in low concentrations. The occurrences are of low significance.
- The two Iron Age Farmer period sites on Makotopong (**Site IA01, Site IA02**) are of medium significance and it is recommended that a further Phase 2 Specialist Study be conducted prior to the commencement of development in this area. This process should include the recording of the larger Farmer Period cultural context by means of a comprehensive area survey, surface and subsurface sampling of the sites, and the analysis of material culture from archaeological horizons at the sites. In addition, two similar Iron Age occupation areas on high ridges on the farm Kalkfontein (**Site IA08, Site IA09**) are of medium significance and it is recommended that the provenance of the sites be established by means of limited Phase 2 mitigation measures. These measures should minimally investigate the nature and context 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 specialist. In all instances, 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. Smaller sites possibly dating to the Iron Age, specifically two vitrified cattle dung deposits on a ridge and a large disturbed area to the west on Makotopong (**Site**

IA03, Site IA04, Site IA05), as well as a section of collapsed stone walling and minor terrace structure on Kalkfontein (Site IA06, Site IA07) are probably of medium-low significance, as little / no heritage remains were located within these contexts and the preservation of the stone structures is generally poor. However, it is recommended that the provenance of the sites be established and that site monitoring be done if any construction takes place around these areas.

- The old house of the Lutheran Native Association Mission Station (Site HP01) on the farm Roodewal (now part of Makotopong) is of importance in terms of the regional Missionary history of the Limpopo Province. In addition, the structure is older than 60 years is therefore protected under the NHRA (Act 25 of 1999). It is recommended that the site be maintained and that a site management plan be implemented to restore and conserve the structure. The dilapidated remains of a large number of mud brick houses (Site HP02) are of medium significance but the sites are poorly preserved and it is recommended that the structures be carefully documented and the detailed provenance of the sites be established by means of a desktop study and social consultation and participation, if the sites were to be impacted on by the proposed mining project. If this were to be the case, a destruction permit from the relevant heritage resources authority (SAHRA) would be mandatory. The remains of the old Ruigedraai homestead on Makotopong (Site HP03) are older than 60 years and they are protected under heritage legislation. It is recommended that the buildings be carefully documented and the detailed provenance of the farmstead be established by means of a desktop study. If the sites were to be impacted on by the proposed mining project, a destruction permit from the relevant heritage resources authority (SAHRA) would be mandatory. The number of poorly preserved brick and mud structures, stone wall enclosures and middens scattered across Makotopong (Site HP04, Site HP05, Site HP06, Site HP08) and Kalkfontein (Site HP09, Site HP10, Site HP11) are of medium-low significance and site monitoring of these structures are recommended when development commences, **as graves are likely to occur around the structures**. If the sites were to be impacted on by the mining development, destruction permits should be obtained from the relevant heritage resources authority (SAHRA). The recent Roodewal farmstead, farm buildings and sheds as well as a large labourer's hostel compound (Site HP07) carry a low significance rating. It is recommended that the sites and surroundings be monitored when the mining development commences.
- All cemeteries and burials on Makotopong (Site BP01, Site BP02, Site BP03, Site BP04, Site BP05, Site BP06, Site BP07, Site BP08, Site BP09) and Kalkfontein (Site BP10, Site BP11, Site BP12, Site BP13, Site BP14) are of high significance and since they are structurally stable, the resources will require management or mitigation if impact cannot be avoided. A conservation buffer zone of at least 20m around the graves, as well as the fencing off of all cemeteries and graves on the farms Makotopong and Kalkfontein are recommended. However, should the graves or the proposed 20m buffer zone be impacted in any way by the planned activities, full grave relocations are recommended for these burials. This measure should be undertaken by a qualified archaeologist, and in accordance with relevant legislation and subject to any local and regional provisions and laws and by-laws pertaining to human remains. A full social consultation process should occur in conjunction with the mitigation of cemeteries and burials and 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. **As burial locations in this area follow a general (and fairly common) pattern where graves occur around historical house structures and homestead complexes, utmost care should be taken not to disturb such resources.**

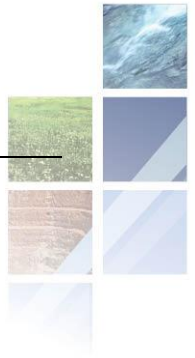
- The remains of small scale mica mining at a number of sites on Kalkfontein (**Site MS01, MS02, MS03, MS04**) are probably of limited significance with regards to its heritage value. However, it is recommended that the relevant resources agency be consulted prior to the disturbance or alteration of these sites.
- 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 and Iron Age deposits. The existence of Historical Period and recent resources deriving from the area's contemporary farming history should also be considered.

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

- Archaeological traces of Iron Age settlements in this area are sometimes ephemeral unless the characteristic ash deposits, cattle dung deposits and stone-wall towns are identified or surface scatters of pottery or related material culture are identified. .
- 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 Wayland Iron Ore Mine Project Area has been occupied for many decades 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

This AIA report serves to confirm the extent and significance of archaeological material in the Wayland Iron Ore Mine Project Area. In addition to heritage resources occurring here, the larger Limpopo Province encompasses a rich and diverse archaeological landscape and cognisance should be taken of heritage resources and archaeological material that might be present in surface and sub-surface deposits. If, during construction, any possible archaeological material culture are made, the operations must be stopped and a qualified archaeologist be contacted for an assessment of the find. Such material culture might include:



- 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 a microlithic blades, points and scrapers.
- Lithic residues and debris such as stone cores and flakes.
- Decorated and undecorated potsherds.
- Iron objects.
- Beads made from ostrich eggshell and glass.
- Ash middens and cattle dung deposits and accumulations.
- Animal bones and faunal remains.
- Human remains/graves.
- Stone walling or any sub-surface structures.
- Historical glass, tin or ceramics.
- Fossils.

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 an archaeological scoping study 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 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.

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