



PGS HERITAGE

MOGALAKWENA MINE EXPANSION PROJECT

Phase 1 – Heritage Impact Assessment – Second Version

Issue Date: 6 September 2019
Revision No.: 2
Project No.: 396 HIA



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Declaration of Independence

- I, Polke Birkholtz, declare that –
- General declaration:
- I act as the independent heritage practitioner in this application
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting heritage impact assessments, including knowledge of the Act, Regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, Regulations and all other applicable legislation;
- I will take into account, to the extent possible, the matters listed in section 38 of the NHRA when preparing the application and any report relating to the application;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- I will ensure that information containing all relevant facts in respect of the application is distributed or made available to interested and affected parties and the public and that participation by interested and affected parties is facilitated in such a manner that all interested and affected parties will be provided with a reasonable opportunity to participate and to provide comments on documents that are produced to support the application;
- I will provide the competent authority with access to all information at my disposal regarding the application, whether such information is favourable to the applicant or not
- All the particulars furnished by me in this form are true and correct;
- I will perform all other obligations as expected from a heritage practitioner in terms of the Act and the constitutions of my affiliated professional bodies; and
- I realise that a false declaration is an offence in terms of regulation 71 of the Regulations and is punishable in terms of section 24F of the NEMA.

Disclosure of Vested Interest

- I do not have and will not have any vested interest (either business, financial, personal or other) in the proposed activity proceeding other than remuneration for work performed in terms of the Regulations;

HERITAGE CONSULTANT:

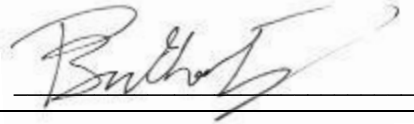
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DETAILS OF CLIENT:

CLIENT: SRK Consulting (Pty) Ltd

CONTACT PERSON: Ms Franciska Lake

The heritage impact assessment report has been compiled taking into account the NEMA Appendix 6 requirements for specialist reports as indicated in the table below.

NEMA Regs (2014) - Appendix 6	Relevant section in report
Details of the specialist who prepared the report	Page iii and Section 1.2
The expertise of that person to compile a specialist report including a curriculum vita	Section 1.2 – refer to Appendix B
A declaration that the person is independent in a form as may be specified by the competent authority	Page ii of the report
An indication of the scope of, and the purpose for which, the report was prepared	Section 1
The date and season of the site investigation and the relevance of the season to the outcome of the assessment	Section 3
A description of the methodology adopted in preparing the report or carrying out the specialised process	Section 3
The specific identified sensitivity of the site related to the activity and its associated structures and infrastructure	Executive Summary, Sections 6 & 9
An identification of any areas to be avoided, including buffers	Executive Summary, Sections 6 & 9
A map superimposing the activity including the associated structures and infrastructure on the environmental sensitivities of the site including areas to be avoided, including buffers;	Refer Figures 30 to 34
A description of any assumptions made and any uncertainties or gaps in knowledge;	Section 1.3
A description of the findings and potential implications of such findings on the impact of the proposed activity, including identified alternatives, on the environment	Sections 5, 6, 7 & 8
Any mitigation measures for inclusion in the EMPr	Section 8
Any conditions for inclusion in the environmental authorisation	Sections 7, 8 & 9
Any monitoring requirements for inclusion in the EMPr or environmental authorisation	Sections 7, 8 & 9
A reasoned opinion as to whether the proposed activity or portions thereof should be authorised and	Executive Summary & Section 9
If the opinion is that the proposed activity or portions thereof should be authorised, any avoidance, management and mitigation measures that should be included in the EMPr, and where applicable, the closure plan	
A description of any consultation process that was undertaken during the course of carrying out the study	Not applicable. No public participation process was done by PGS Heritage.
A summary and copies if any comments that were received during any consultation process	Not applicable. Although a public participation process was undertaken, no heritage-related comments were received.
Any other information requested by the competent authority.	Not applicable. No consultation with the heritage authorities has as of yet taken place.

EXECUTIVE SUMMARY

Introduction

PGS Heritage (Pty) Ltd was appointed by SRK Consulting (Pty) Ltd to undertake a Phase 1 Heritage Impact Assessment (HIA) for the proposed Mogalakwena Mine Expansion Project, near Mokopane, Limpopo Province.

The study area is located on sections of the farms Overysel 815 LR, Zwartfontein 818 LR, Vaalkop 819 LR and Blinkwater 820 LR and falls under the Mapela Traditional Authority and the Mogalakwena Local Municipality, Limpopo Province.

Associated Reports and Processes

This heritage study is undertaken synchronously with other heritage studies for Mogalakwena Mine. One of these other studies currently undertaken is an assessment of the archaeological and heritage significance of the Mochlotlo Hills, situated in close proximity to some of the current development footprints. This study on the Mochlotlo Hills is expected to culminate in a heritage management plan and demarcation of an exclusion zone on and around the hills. The findings of this report will be integrated with the Mochlotlo Hills report. As a result, the present report does not contain any findings or recommendations from the associated report.

General Desktop Study

An archival and historical desktop study was undertaken to provide a historic framework for the project area and surrounding landscape. This was augmented by a study of available historical and archival maps and an assessment of previous archaeological and heritage studies completed for the area. The desktop study revealed that the surroundings of the study area is characterised by a long and significant history, whereas previous archaeological and heritage studies from this area have revealed a number of archaeological and heritage sites from the surroundings.

Palaeontology

Dr. Lloyd Rossouw of Palaeo Field Services cc was commissioned to undertake a desktop Palaeontological Impact Assessment. His report and findings are attached in full in **Appendix C**.

Dr. Rossouw found that the study area partially incorporates an “...*outcrop area of the Chuniespoort Group of the early Proterozoic Transvaal Supergroup, which includes Malmani Subgroup dolomites and limestones that are considered to be of high palaeontological sensitivity, with a high likelihood that stromatolitic fossil assemblages may be present in most of the outcrop areas of this unit.*”

The palaeontological report recommends that the “...*proposed study area is exempted from further palaeontological assessment, except where the footprint is underlain by Malmani Subgroup sediments. Consequently, six different infrastructure / planned activities may be affected by > 1m deep excavations into unweathered Malmani Subgroup bedrock. This will require monitoring by a professional palaeontologist as part of a Phase 1 assessment in case of chance exposure of stromatolite fossil remains, while such excavations are still open.*”

Fieldwork

The fieldwork component of the study was aimed at identifying tangible remains of archaeological, historical and heritage significance. The fieldwork was undertaken by way of intensive walkthroughs of the proposed development footprint areas. The walkthroughs were focussed on those areas that are not disturbed, as the potential for identifying archaeological and heritage sites in the more undisturbed components of the study area are much higher. As a result, only limited fieldwork was undertaken in those components of the study area that are entirely disturbed.

The fieldwork was undertaken by two archaeological fieldwork teams over the course of a number of fieldwork trips. The two fieldwork teams were led by archaeologists Polke Birkholtz and Ilan Smeyatsky, and assisted by archaeological field assistants Derrick James and John Anderson. The fieldwork was undertaken from Monday, 25 February 2019 to 1 March 2019, 12 March 2019 to 14 March 2019 and Friday, 5 April 2019. Throughout the fieldwork, hand-held GPS devices were used to record the track logs showing the routes followed by the two archaeological fieldwork teams. All sites identified during the fieldwork were photographically and qualitatively recorded, and their respective localities documented using a hand-held GPS device.

The fieldwork resulted in the identification of a total of seventy-one (71) archaeological and heritage sites. These were numbered from MMEP 1 to MMEP 71. These identified sites comprised the following:

- Eleven sites containing confirmed graves and burial grounds. See MMEP 10, MMEP 13, MMEP 17, MMEP 18, MMEP 21, MMEP 24, MMEP 27, MMEP 31, MMEP 34, MMEP 36 and MMEP 66.
- Four sites containing possible graves. See sites MMEP 2, MMEP 22, MMEP 30 and MMEP 40.
- Two sites containing relocated burial grounds which may still contain graves. See sites MMEP 7 and MMEP 69.

- Twenty-eight black homesteads where the potential risk for the presence of unmarked stillborn graves exist. See sites MMEP 4, MMEP 11, MMEP 12, MMEP 14, MMEP 16, MMEP 19, MMEP 23, MMEP 26, MMEP 28, MMEP 29, MMEP 33, MMEP 35, MMEP 39, MMEP 41, MMEP 44, MMEP 45, MMEP 46, MMEP 51, MMEP 53, MMEP 54, MMEP 55, MMEP 59, MMEP 61, MMEP 62, MMEP 64, MMEP 68, MMEP 70 and MMEP 71.
- One historic farmstead which is certainly older than 60 years and quite likely older than 100 years as well. The farmstead site also comprises a historic black farmstead and a confirmed burial ground. See site MMEP 43.
- Twelve Stone Age sites. See sites MMEP 1, MMEP 5, MMEP 6, MMEP 8, MMEP 9, MMEP 15, MMEP 47, MMEP 48, MMEP 49, MMEP 52, MMEP 60 and MMEP 67.
- One possible rain-making site. This site is MMEP 57.
- One Late Iron Age stonewalled site. See site MMEP 50.
- Eight sites comprising historic to recent stonewalling. See sites MMEP 20, MMEP 25, MMEP 37, MMEP 42, MMEP 56, MMEP 58, MMEP 63 and MMEP 65.
- One site comprising a single lower grinding stone. See site MMEP 32.
- One site comprising a rock boulder associated with cupules and stonewalling. See site MMEP 3.
- One site comprising a rubbing post. See MMEP 38.

Impact Assessment and Mitigation

An overlay of the identified archaeological and heritage sites over the proposed development footprint areas was made, which was used to assess the impact of the proposed development on these identified archaeological and heritage sites. Both pre-mitigation and post-mitigation impact assessments were undertaken. Please refer Chapter 7 for the impact assessment calculations. A series of site-specific mitigation measures are outlined in Chapter 8 of this report.

General Recommendations

The following general recommendations are made:

- The authors are aware of non-tangible heritage sites which may be located within the study area. These include a sacred tree and sacred water site located near Sekuruwe, and which may be located within the Blinkwater TSF footprint area. Before commencement of the Pre-Construction Phase, social consultation will have to take place with members of Sekuruwe to ascertain the positions and nature of these sites. Should the mine become aware of the presence of any other similar non-tangible sites, similar social consultation must be undertaken to identify and include any such sites located within the present study area.
- Of the 35 archaeological and heritage sites identified within the Blinkwater TSF area, as many as 23 sites are located in close proximity to the Mhlotlo Hills. It is understood that the development footprint area for this component of the study area will be moved to the east, to reduce the impact on this high density of identified sites. Such an amendment of the development footprint area will be fully supported by the authors of this report.

Conclusions

On the condition that the general recommendations and mitigation measures outlined in this report are adhered to, and in cognisance of the assumptions and limitations contained in this report, no heritage reasons can be given for the development not to continue.

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TERMINOLOGY AND ABBREVIATIONS

Archaeological resources

This includes:

- material remains resulting from human activity which are in a state of disuse and are in or on land and which are older than 100 years including artefacts, human and hominid remains and artificial features and structures;
- rock art, being any form of painting, engraving or other graphic representation on a fixed rock surface or loose rock or stone, which was executed by human agency and which is older than 100 years, including any area within 10m of such representation;
- wrecks, being any vessel or aircraft, or any part thereof, which was wrecked in South Africa, whether on land, in the internal waters, the territorial waters or in the maritime culture zone of the republic as defined in the Maritimes Zones Act, and any cargo, debris or artefacts found or associated therewith, which is older than 60 years or which SAHRA considers to be worthy of conservation;
- features, structures and artefacts associated with military history which are older than 75 years and the site on which they are found.

Cultural significance

This means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance

Development

This means any physical intervention, excavation, or action, other than those caused by natural forces, which may in the opinion of the heritage authority in any way result in a change to the nature, appearance or physical nature of a place or influence its stability and future well-being, including:

- construction, alteration, demolition, removal or change in use of a place or a structure at a place;
- carrying out any works on or over or under a place;
- subdivision or consolidation of land comprising a place, including the structures or airspace of a place;
- constructing or putting up for display signs or boards;
- any change to the natural or existing condition or topography of land; and
- any removal or destruction of trees, or removal of vegetation or topsoil

Early Stone Age

The archaeology of the Stone Age between 700 000 and 2 500 000 years ago.

Fossil

Mineralised bones of animals, shellfish, plants and marine animals. A trace fossil is the track or footprint of a fossil animal that is preserved in stone or consolidated sediment.

Heritage

That which is inherited and forms part of the National Estate (historical places, objects, fossils as defined by the National Heritage Resources Act 25 of 1999).

Heritage resources

This means any place or object of cultural significance and can include (but not limited to) as stated under Section 3 of the NHRA,

- places, buildings, structures and equipment of cultural significance;
- places to which oral traditions are attached or which are associated with living heritage;
- historical settlements and townscapes;
- landscapes and natural features of cultural significance;
- geological sites of scientific or cultural importance;
- archaeological and palaeontological sites;
- graves and burial grounds, and
- sites of significance relating to the history of slavery in South Africa;

Holocene

The most recent geological time period which commenced 10 000 years ago.

Late Stone Age

The archaeology of the last 30 000 years associated with fully modern people.

Late Iron Age (Early Farming Communities)

The archaeology of the last 1000 years up to the 1800's, associated with iron-working and farming activities such as herding and agriculture.

Middle Stone Age

The archaeology of the Stone Age between 30 000-300 000 years ago, associated with early modern humans.

Palaeontology

Any fossilised remains or fossil trace of animals or plants which lived in the geological past, other than fossil fuels or fossiliferous rock intended for industrial use, and any site which contains such fossilised remains or trace.

Table 1 – List of abbreviations used in this report

Abbreviations	Description
AIA	Archaeological Impact Assessment
ASAPA	Association of South African Professional Archaeologists
CRM	Cultural Resource Management
DEA	Department of Environmental Affairs
DWS	Department of Water and Sanitation
ECO	Environmental Control Officer
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
ESA	Early Stone Age
GPS	Global Positioning System
HIA	Heritage Impact Assessment
IAP	Interested and Affected Party
LSA	Late Stone Age
LIA	Late Iron Age
MSA	Middle Stone Age
MIA	Middle Iron Age
NEMA	National Environmental Management Act
NHRA	National Heritage Resources Act
PHRA	Provincial Heritage Resources Authority
PSSA	Palaeontological Society of South Africa
SADC	Southern African Development Community
SAHRA	South African Heritage Resources Agency

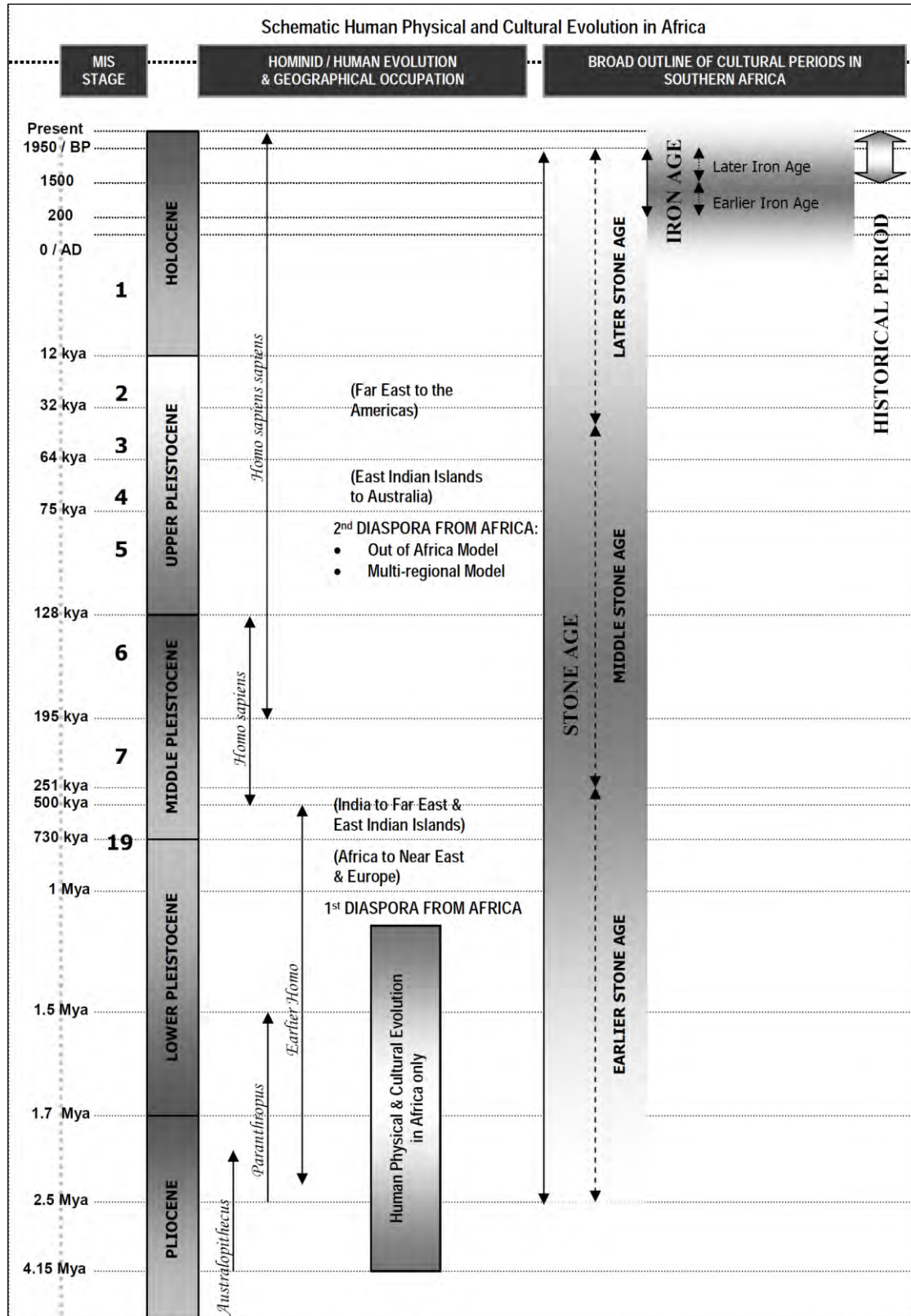


Figure 1 – Human and Cultural Timeline in Africa (Morris, 2008)

1 INTRODUCTION

PGS Heritage (Pty) Ltd was appointed by SRK Consulting (Pty) Ltd to undertake a Phase 1 Heritage Impact Assessment (HIA) for the proposed Mogalakwena Mine Expansion Project, near Mokopane, Limpopo Province.

The study area is located on sections of the farms Overysel 815 LR, Zwartfontein 818 LR, Vaalkop 819 LR and Blinkwater 820 LR and falls under the Mapela Traditional Authority and the Mogalakwena Local Municipality, Limpopo Province.

1.1 Scope of the Study

The aim of the study is to identify possible heritage sites and finds that may occur in the proposed study area.

The Heritage Impact Assessment aims to inform the EIA to assist the developer in managing the discovered heritage resources in a responsible manner, in order to protect, preserve, and develop them within the framework provided by the National Heritage Resources Act of 1999 (Act 25 of 1999) (NHRA).

1.2 Specialist Qualifications

This HIA Report was compiled by PGS Heritage (Pty) Ltd.

The staff at PGS has a combined experience of nearly 40 years in the heritage consulting industry. PGS and its staff have extensive experience in managing HIA processes. PGS will only undertake heritage assessment work where they have the relevant expertise and experience to undertake that work competently.

The following individuals were involved with this study:

- Mr Polke Birkholtz, the project manager and principal heritage specialist, is registered with the Association of Southern African Professional Archaeologists (ASAPA) as a Professional Archaeologist and is also accredited with the CRM Section of the same association. He has 19 years of experience in the heritage assessment and management field and holds a B.A. (cum laude) from the University of Pretoria specialising in Archaeology, Anthropology and History and a B.A. (Hons.) in Archaeology (cum laude) from the same institution.
- Mr Ilan Smeyatsky, graduated with his Master's degree (MSc) in Archaeology; is registered as a Professional Archaeologist with the Association of Southern African

Professional Archaeologists (ASAPA) and is accredited as a Field Supervisor.

- Mr John Anderson, one of two archaeological field assistants on the project, has 14 years' experience as a field assistant on archaeological and heritage fieldwork and mitigation projects.
- Mr Derrick James, one of two archaeological field assistants on the project, has eight years' experience as a field assistant on archaeological and heritage fieldwork and mitigation projects.

1.3 Assumptions and Limitations

The following assumptions and limitations regarding this study and report exist:

- Not detracting in any way from the comprehensiveness of the fieldwork undertaken, it is necessary to realise that the heritage resources located during the fieldwork do not necessarily represent all the possible heritage resources present within the area. In fact, due to the vegetation found within sections of the study area, it is highly likely for the present identified heritage sites not be a complete record of all the archaeological and heritage resources located within the study area.

Such newly observed or located heritage features and/or objects may not be disturbed or removed in any way until such time that the heritage specialist has been able to make an assessment as to the significance of the site (or material) in question. This applies to graves and cemeteries as well. In the event that any graves or burial places are located during the development, the procedures and requirements pertaining to graves and burials will apply as set out below.

- The authors are aware of non-tangible heritage sites which may be located within the study area. These include a sacred tree and sacred water site located near Sekuruwe, and which may be located within the Blinkwater TSF footprint area. Before the commencement of the Pre-Construction Phase, social consultation must take place with members of Sekuruwe to ascertain the positions and nature of these sites.
- This heritage study is undertaken synchronously with other heritage studies for Mogalakwena Mine. One of these other studies currently undertaken is an assessment of the archaeological and heritage significance of the Mohlotlo Hills, situated in close proximity to some of the current development footprints. This study on the Mohlotlo Hills is expected to culminate in a heritage management plan and demarcation of an exclusion zone on and around the hills. The findings of this report will be integrated with the Mohlotlo Hills report. As a result, the present report does not contain any findings or recommendations from the associated report.

1.4 Legislative Context

The identification, evaluation and assessment of any cultural heritage site, artefact or find in the South African context is required and governed by the following legislation:

- National Environmental Management Act (NEMA), Act 107 of 1998
- National Heritage Resources Act (NHRA), Act 25 of 1999
- Mineral and Petroleum Resources Development Act (MPRDA), Act 28 of 2002

The following sections in each Act refer directly to the identification, evaluation and assessment of cultural heritage resources.

- National Environmental Management Act (NEMA) Act 107 of 1998
 - Basic Assessment (BEA) – Section (23)(2)(d)
 - Scoping Report (SR) – Section (29)(1)(d)
 - Environmental Impact Assessment (EIA) – Section (32)(2)(d)
 - Environmental Management Plan (EMPr) – Section (34)(b)
- National Heritage Resources Act (NHRA) Act 25 of 1999
 - Protection of Heritage Resources – Sections 34 to 36; and
 - Heritage Resources Management – Section 38
- Mineral and Petroleum Resources Development Act (MPRDA) Act 28 of 2002
 - Section 39(3)

The NHRA stipulates that cultural heritage resources may not be disturbed without authorization from the relevant heritage authority. Section 34(1) of the NHRA states that, “no person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority...” The NHRA is utilized as the basis for the identification, evaluation and management of heritage resources and in the case of CRM those resources specifically impacted on by development as stipulated in Section 38 of NHRA. This study falls under s38(8) and requires comment from the relevant heritage resources authority.

2 TECHNICAL DETAILS OF THE PROJECT

2.1 Locality

Study Area Coordinates	Northernmost point: S 23.912548 E 28.894079	Easternmost point: S 23.941680 E 28.937400
	Southernmost point: S 24.022746 E 28.903956	Westernmost point: S 23.945760 E 28.862490
Location	The study area is located within the Mapela Traditional Authority and the Mogalakwena Local Municipality. It is located approximately 20km north by north-west of Mokopane, Limpopo Province.	
Property	Portions of the farms Overysel 815 LR, Zwartfontein 818 LR, Vaalkop 819 LR and Blinkwater 820 LR.	
Topographic Map	2328DD & 2428BB	
Study Area Extent	The combined extent of the study area is approximately 900 hectares.	

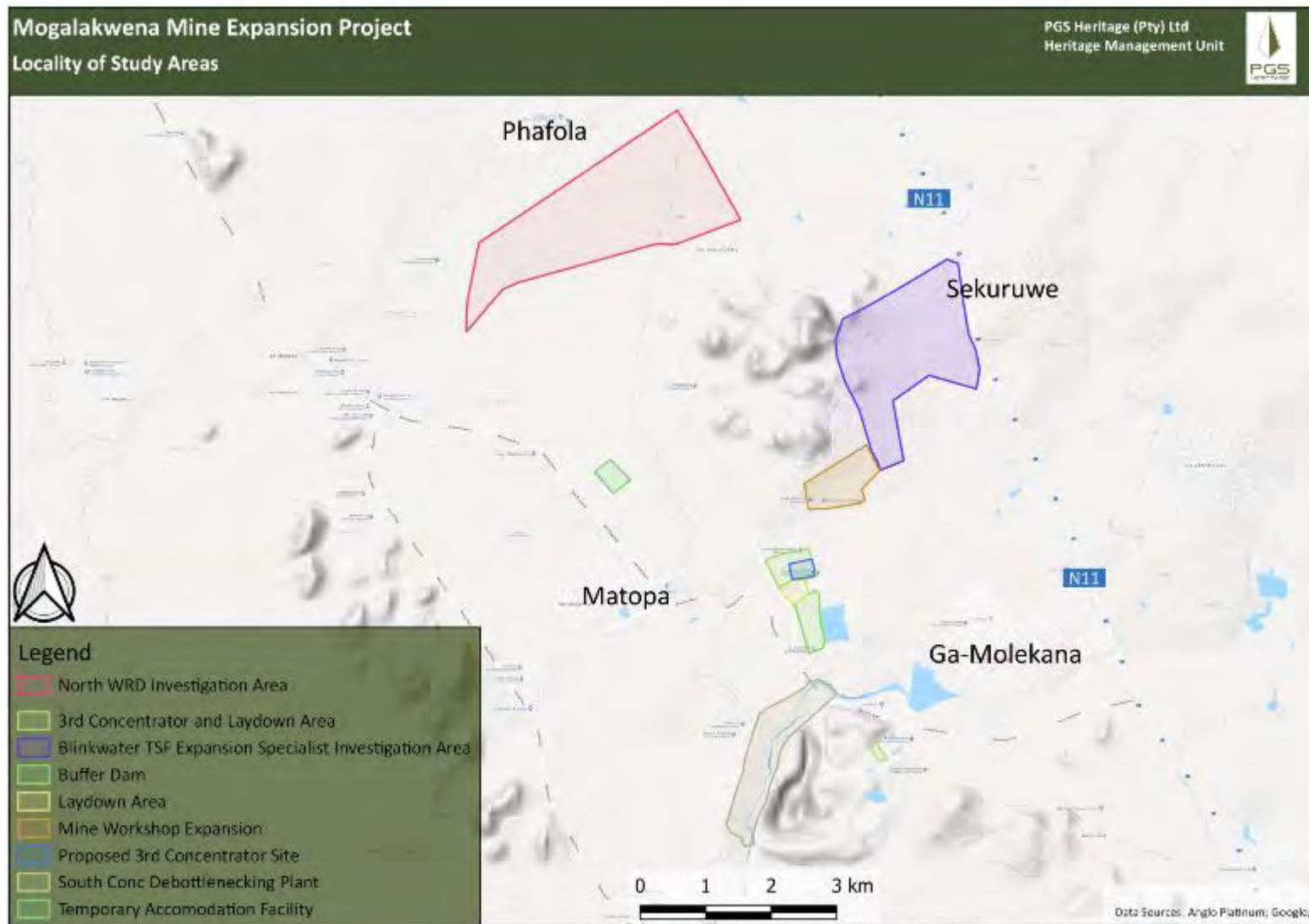


Figure 2 – Locality of Mogalakwena Mine Expansion Project. The town of Mokopane is located a short distance south of the landscape depicted on this map.

2.2 Technical Project Description

Mogalakwena Mine (MM) owned by Rustenburg Platinum Mines Limited (RPM), a wholly owned subsidiary of Anglo American Platinum (AAP). Mogalakwena Mine has been operational since 1992 and the expected Life of Mine is in excess of 50 years.

The proposed Mogalakwena Mine Expansion Project includes the following infrastructure and activities:

- The 3rd concentrator plant
- Upgrading of the South concentrator plant
- Expansion of the approved second compartment of the existing Blinkwater tailings storage facility and development of additional water management infrastructure (NEMA Authorisation in place application in terms of NWA required);
- A buffer water storage dam;
- A new waste rock dump;
- Reinstatement of the old contractor's' camp
- Change house to be situated in close proximity to the North mining main offices and existing change house facilities
- Upgrade of an existing section of an internal mine road;
- Upgrade of the existing sewage treatment plants (STPs) located at the contractors' camp and the existing North concentrator plant
- Contractor's laydown area
- Expansion of the mine fleet workshop area
- Sandsloot river diversion (NEMA Authorisation in place application in terms of NWA required)

3 ASSESSMENT METHODOLOGY

3.1 Methodology for Assessing Heritage Site Significance

This report was compiled by PGS Heritage for the proposed Waste Rock Dump for the Mogalakwena Mine near Mokopane, Limpopo Province. The applicable maps, tables and figures are included as stipulated in the NHRA (no 25 of 1999) and the National Environmental Management Act (NEMA) (no 107 of 1998). The HIA process consisted of three steps:

Step I – Desktop Study: A detailed archaeological and historical overview of the study area and surroundings was undertaken. This work was augmented by an assessment of reports and data contained on the South African Heritage Resources Information System (SAHRIS). Additionally, an assessment was made of the available historic topographic maps. All these desktop study components were undertaken to support the fieldwork.

Step II – Field Survey: The fieldwork component of the study was aimed at identifying tangible remains of archaeological, historical and heritage significance. The fieldwork was undertaken by way of intensive walkthroughs of the proposed development footprint areas. The walkthroughs were focussed on those areas that are not disturbed, as the potential for identifying archaeological and heritage sites in the more undisturbed components of the study area are much higher. As a result, only limited fieldwork was undertaken in those components of the study area that are entirely disturbed.

The fieldwork was undertaken by two archaeological fieldwork teams over the course of a number of fieldwork trips. The two fieldwork teams were led by archaeologists Polke Birkholtz and Ilan Smeyatsky, and assisted by archaeological field assistants Derrick James and John Anderson. The fieldwork was undertaken from Monday, 25 February 2019 to 1 March 2019, 12 March 2019 to 14 March 2019 and Friday, 5 April 2019. Throughout the fieldwork, hand-held GPS devices were used to record the track logs showing the routes followed by the two archaeological fieldwork teams. All sites identified during the fieldwork were photographically and qualitatively recorded, and their respective localities documented using a hand-held GPS device.

Step III – Report: The final step involved the recording and documentation of relevant heritage resources, as well as the assessment of resources regarding the heritage impact assessment criteria and report writing, as well as mapping and recommendations.

The significance of heritage sites was based on five 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)

- Low - <10/50m2
- Medium - 10-50/50m2
- High - >50/50m2
- uniqueness and
- potential to answer present research questions.

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

A - No further action necessary;

B - Mapping of the site and controlled sampling required;

C - No-go or relocate development position

D - Preserve site, or extensive data collection and mapping of the site; and

E - Preserve site

Site Significance

Site significance classification standards prescribed by the South African Heritage Resources Agency (2006) and approved by the Association for Southern African Professional Archaeologists (ASAPA) for the Southern African Development Community (SADC) region, were used for the purpose of this report (see **Table 2**).

Table 2 – Site significance classification as prescribed by SAHRA

FIELD RATING	GRADE	SIGNIFICANCE	RECOMMENDED MITIGATION
National Significance (NS)	Grade 1	-	Conservation; National Site nomination
Provincial Significance (PS)	Grade 2	-	Conservation; Provincial Site nomination
Local Significance (LS)	Grade 3A	High	Conservation; Mitigation not advised
Local Significance (LS)	Grade 3B	High	Mitigation (Part of site should be retained)
Generally Protected A (GP.A)	Grade 4A	High/Medium	Mitigation before destruction
Generally Protected B (GP.B)	Grade 4B	Medium	Recording before destruction
Generally Protected C (GP.C)	Grade 4D	Low	Destruction

3.2 Methodology for Impact Assessment

As part of the integrated environmental authorisation process, various specialist studies will need to be undertaken in support of the Environmental Impact Assessment (EIA) and the development of the Environmental Management Programme (EMPr).

All specialists are required to assess each proposed activity/aspect of the Der Brochen Amendment Project in relation to the construction, operational, closure and decommissioning phases in order to identify the potential impacts that may be associated with such activity and to develop appropriate mitigation measures that can be implemented to reduce or eliminate the potential impacts identified.

The specialist will assess the potential impact identified according to the Impact Assessment Methodology described below. This Impact Assessment Methodology has been formalised by SRK to comply with the EIA Regulations of 2014 (as amended) promulgated under NEMA, which states the following:

An environmental impact assessment report must contain all information that is necessary for the competent authority to consider the application and to reach a decision, and must include –

an assessment of each identified potentially significant impact, including –

- (i) cumulative impacts;*
- (ii) the nature, significance and consequence of the impact and risk;*
- (iii) the extent and duration of the impact and risk;*
- (iv) the probability of the impact and risk occurring;*
- (v) the degree to which the impact and risk can be reversed;*
- (vi) the degree to which the impact and risk may cause irreplaceable loss of resources; and*
- (vii) the degree to which the impact and risk can be mitigated.*

Based on the above, the Impact Assessment Methodology requires that each potential impact identified is clearly described (providing the nature of the impact) and be assessed in terms of the following factors:

- **extend** (spatial scale) - *will the impact affect the national, regional or local environment, or only that of the site?;*
- **duration** (temporal scale) - *how long will the impact last?;*
- **magnitude** (severity) - *will the impact be of high, moderate or low severity?;* and
- **probability** (likelihood of occurring) - *how likely is it that the impact may occur?.*

To enable a scientific approach for the determination of the environmental significance (importance) of each identified potential impact, a numerical value has been linked to each factor.

	Duration:	Probability:
	5 - Permanent	5 – Definite/don't know
	4 – Long-term (ceases with the operational life)	4 – Highly probable
	3 – Medium-term (5-15 years)	3 – Medium probability
	2 - Short-term (0-5 years)	2 – Low probability
	1 – Immediate	1 – Improbable
		0 – None
Severity	Extent/scale:	Magnitude:
	5 – International	10 - Very high/uncertain
	4 – National	8 – High
	3 – Regional	6 – Moderate
	2 – Local	4 – Low
	1 – Site only	2 – Minor
	0 – None	

Once the above factors had been ranked for each identified potential impact, the environmental significance of each impact can be calculated using the following formula:

$$\text{Significance} = (\text{duration} + \text{extend} + \text{magnitude}) \times \text{probability}$$

The maximum value that can be calculated for the environmental significance of any impact is 100. The environmental significance of any identified potential impact is then rated as either: high, moderate or low on the following basis:

- More than 60 significance value indicates a high (H) environmental significance impact;
- Between 30 and 60 significance value indicates a moderate (M) environmental significance impact; and
- Less than 30 significance value indicates a low (L) environmental significance impact.

In order to assess the degree to which the potential impact can be reversed and be mitigated, each identified potential impact will need to be assessed twice.

- Firstly, the potential impact will be assessed and rated **prior** to implementing any mitigation and management measures; and
- Secondly, the potential impact will be assessed and rated **after** the proposed mitigation and management measures have been implemented.

The purpose of this dual rating of the impact before and after mitigation is to indicate that the significance rating of the initial impact is and should be higher in relation to the significance of the impact after mitigation measures have been implemented.

In order to assess the degree to which the potential impact can cause irreplaceable loss of resources, the following classes (%) will be used and will need to be selected based on the specialist informed decision and discretion:

- 5 100% - Permanent loss
- 4 75% - 99% - significant loss
- 3 50% - 74% - moderate loss
- 2 25% - 49% - minor loss
- 1 0% - 24% - limited loss

Please note that the Loss of Resources aspect will not affect the overall significance rating of the impact.

In terms of assessing the cumulative impacts, specialists are required to address this in a sentence/ paragraph fashion as the spatial extent of the cumulative impacts will vary from project to project. Cumulative impact, in relation to an activity, means the impact of an activity that in itself may not be significant, but may become significant when added to the existing or potential impacts eventuating from similar or diverse activities or undertakings in the area.

4 CURRENT STATUS QUO

4.1 General description of the Study Area

The study area is made up of a number of different development footprint areas with varying characteristics. Near the centre of these different footprint areas, a prominent cluster of granite bornhardt-type hills known vernacularly as the Mhlotlo Hills, Blinkoppe or Wellington Dome are located. These hills, though not directly associated with the present study area, form a prominent landmark on this landscape that is visible from almost all components of the study area.

The North WRD and Blinkwater TSF areas are located north and east of the Mhlotlo Hills, and can be described as reasonably level areas that on average have a slight downward slope away from the hills. A number of non-perennial streams drain from the higher-lying Mhlotlo Hills across these two study area components. These non-perennial streams are associated with high levels of erosion, resulting in sections of them comprising erosion gullies.

The surface of the Blinkwater TSF in particular, is characterized by a sandy soil. Sporadic though intensive illegal sand mining activities were observed here during the fieldwork.

In terms of vegetation, the study area is located within the Makhado Sweet Bushveld vegetation type. This vegetation type is described as “...slightly to moderately undulating plains sloping generally down to the north, with some hills in the southwest. Short and shrubby bushveld with a poorly developed grass layer (www.sanbi.org). Sections of the study area, and especially so in the ravines and kloofs associated with the Blinkop and Mhlotlo Mountains, very dense vegetation is found.

In terms of geology and soils, the Makhado Sweet Bushveld vegetation type is “...underlain by the gneisses and migmatites of the Hout River Gneiss (Randian Erathem) and the potassium-deficient gneisses of the Goudplaats Gneiss (Swazian Erathem). Sandstones and mudstones of the Matlabas Subgroup (Mokolian Waterberg Group) are also found. Soils include deep, greyish sands, eutrophic plinthic catenas, red-yellow apedal freely drained soils with high base status, clayey in bottomlands.” (www.sanbi.org).

While some mining-related disturbance is also found within the North WRD and Blinkwater TSF areas, the study area components located closer to the mine are for the most part extensively disturbed by mining-related activities. Such disturbed areas include the proposed Temporary Accommodation area, the 3rd Concentrator Investigation area, the 3rd Concentrator site, the South Upgrade Debottlenecking Area and the proposed Mine Fleet Workshop Expansion area.



Figure 3 – General view across a section of the Blinkwater TSF area with the Mohlotlo Hills in the back. In the foreground, the sandy nature of the soil from this study area component can be seen. The result of extensive illegal sand mining activities can also be seen.

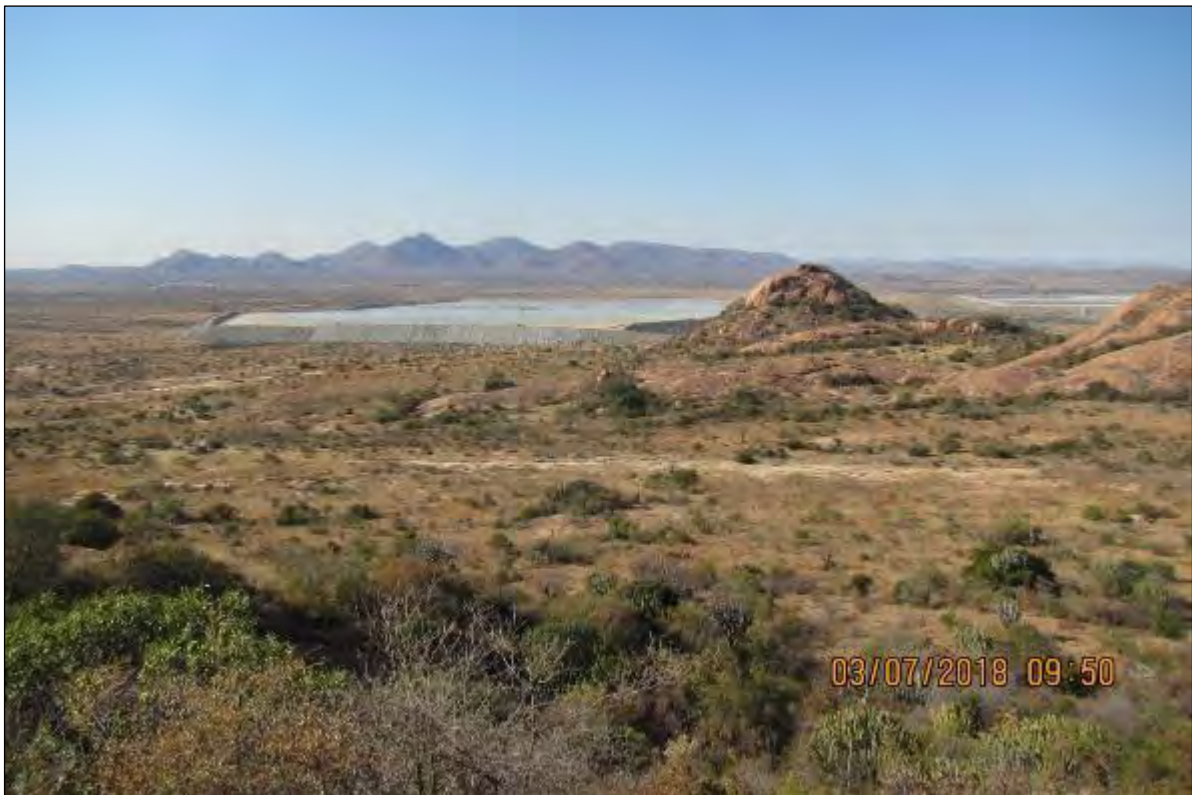


Figure 4 – South-eastern view from Mohlotlo Hills showing sections of the Blinkwater TSF area in the background. The prominent hill on the right is also located within this area. The existing Blinkwater TSF can also be seen.



Figure 5 – Another view of a section of the Blinkwater TSF area. On the right, a section of the existing Blinkwater TSF can be seen with Sekuruwe visible in the background on the left.



Figure 6 – Eroded watercourses such as the one depicted here are found in both the North WRD and Blinkwater TSF areas. The watercourse shown here is from the North WRD area.



Figure 7 – General view of the North WRD area showing some of the discard dumps associated with the opencast pit.



Figure 8 – General view of the Buffer Dam area which is covered by an old mine dump.



Figure 9 – General view of the Mine Fleet Workshop area. The disturbed nature of this component of the study area can be seen.



Figure 10 – General view of a section of the proposed Change House. The disturbed nature of this component of the study area can be seen.



Figure 11 – General view of the Sandsloot River Diversion area. The disturbed nature of this component of the study area can be seen.



Figure 12 – A section of the South Upgrade (Debottlenecking) area and be seen. The disturbed nature of this study area component can also be seen.

5 DESKTOP STUDY FINDINGS

5.1 Archaeological overview of the Study Area and Surroundings

5.1.1 Early Stone Age (ESA) (>200 000 – 2 million years Before Present/BP)

General characteristics: Early stages include simple flakes struck from cobbles, core and pebble tools; later stages include intentionally shaped handaxes, cleavers and picks; final or transitional stages have tools that are smaller than the preceding stages and include large blades (Lombard *et al.* 2012). Phases of the Early Stone Age:

- *Oldowan*: 1.5 to >2 million years ago - Technological characteristics: Cobble, core or flake tools with little retouch and no flaking to predetermined patterns; Hammerstones, manuports, cores; and polished bone fragments/tools (Lombard *et al.* 2012).
- *Acheulean*: 300 thousand to 1.5 million years ago - Technological characteristics: Bifacially worked handaxes and cleavers, large flakes > 10 cm; some flakes with deliberate retouch, sometimes classified as scrapers; gives impression of being deliberately shaped, but could indicate result of knapping strategy; sometimes shows core preparation; and generally found in disturbed open-air locations (Lombard *et al.* 2012).
- *ESA-MSA transition*: 200 to 600 thousand years ago - Technological characteristics: Described at some sites as *Fauresmith* or *Sangoan*; *Fauresmith* assemblages have large blades, points, Levallois technology, and the remaining ESA components have small bifaces; the *Sangoan* contains small bifaces (<100 mm), picks, heavy and light-duty denticulated and notched scrapers; The *Sangoan* is less well described than the *Fauresmith* (Lombard *et al.* 2012).

As far as is currently known, Limpopo province is not as well known for its Early Stone Age resources as other parts of the country. The closest occurrences of major finds from this time period are located at the Cave of Hearths (Herries 2011), which is dated to 1.1-1.4 Ma (best age estimates interpreted from contexts of direct/associated dates) and characterised by *Acheulian* assemblages.

5.1.2 Middle Stone Age (MSA) (20 000 – 300 000 BP)

General characteristics: Levallois or prepared core techniques (for definitions see Van Peer 1992; Boeda 1995; Pleurdeau 2005) occur in which triangular flakes with convergent dorsal scars, often with faceted striking platforms are produced; Discoidal systems (for definition see Inizan *et al.* 1999) and intentional blade production from volumetric cores (for definition see Pleurdeau 2005) also occur; formal tools may include unifacially and bifacially retouched points, backed artefacts, scrapers, and denticulates (for definition see Bisson 2000); evidence of hafted tools; occasionally includes marine shell beads, bone points, engraved ochre nodules, engraved OES fragments, engraved bone fragments, and grindstones (Lombard *et al.* 2012). Phases of the MSA:

- *early Middle Stone Age*: 130 to 300 thousand years - Technological characteristics: Includes discoidal and Levallois flake technologies, blades from volumetric cores and a generalised toolkit (Lombard *et al.* 2012).
- *Klasies River* : 105 to 130 thousand years ago - Technological characteristics: Recurrent blade and convergent flake production; end products are elongated and relatively thin, often with curved profiles; platforms are often small with diffused bulbs; low frequencies of retouch; and denticulated pieces (Lombard *et al.* 2012).
- *Mossel Bay*: 77 to 105 thousand years ago - Technological characteristics: Recurrent uni-polar Levallois point and blade reduction; products have straight profiles; percussion bulbs are prominent and often splintered or ring-cracked; formal retouch is infrequent and restricted to sharpening the tip or shaping the butt (Lombard *et al.* 2012).
- *Still Bay*: 70 to 77 thousand years ago - Technological characteristics: Characterised by thin (<10 mm), bifacially worked foliate or lanceolate points; semi-circular or wide-angled pointed butts; and could include blades and finely serrated points (Lombard *et al.* 2010).
- *Howieson's Poort*: 58 to 66 thousand years ago - Technological characteristics: Characterised by blade technology; includes small (<4 cm) backed tools, e.g. segments, scrapers, trapezes and backed blades; some denticulated blades; and pointed forms are rare or absent (Lombard *et al.* 2012).
- *Sibudu*: 45 to 58 thousand years ago – Technological characteristics: Most points are produced using Levallois technique; most formal retouch aimed at producing unifacial points; some plain butts; rare bifacially retouched points; some side scrapers are present; and backed pieces are rare (Lombard *et al.* 2012).
- *final Middle Stone Age*: 20 to 40 thousand years - Technological characteristics: Characterised by high regional variability that may include, e.g. bifacial tools, bifacially retouched points, hollow-based points; triangular flake and blade industries; small bifacial and unifacial; Sibudu point characteristics: short, stout, lighter in mass compared to points from the Sibudu technocomplex, but heavier than those from the Still Bay; can be microlithic; can include bipolar technology; and could include backed geometric shapes such as segments, as well as side scrapers (Lombard *et al.* 2012).

Most MSA sites in Limpopo Province are caves or rockshelters, the best known being Cave of Hearths (Mason 1962, 1988; Sampson 1974; Sinclair 2009), Olieboomspoort (Mason 1962; Van der Ryst 2006), Bushman Rock Shelter (Plug 1981; Porraz *et al.* 2015) and Mwulu's Cave (Tobias 1949; Sampson 1974).

5.1.3 Later Stone Age (LSA) (40 000 – < 2 000 BP)

General characteristics: Variability between assemblages; a wide range of formal tools, particularly scrapers (microlithic and macrolithic), backed artefacts, evidence of hafted stone and bone tools, borers, bored stones, upper and lower grindstones, grooved stones, ostrich eggshell (OES) beads and other ornaments, undecorated/decorated OES fragments, flasks/flask fragments, bone tools (sometimes with decoration), fishing equipment, rock art, and ceramics in the final phase (Lombard

et al. 2012).

Phases of Later Stone Age:

- *early Later Stone Age*: 18 to 40 thousand years ago - Technological characteristics: Characterised by unstandardised, often microlithic, pieces and includes the bipolar technique; described at some sites, but not always clear whether assemblages represent a real archaeological phase or a mixture of LSA/MSA artefacts (Lombard *et al.* 2012).
- *Robberg*: 12 to 18 thousand years ago - Technological characteristics: Characterised by systematic bladelet (<26 mm) production and the occurrence of outils écaillés or scaled pieces (for definition of outils écaillés see Hayden 1980); significant numbers of unretouched bladelets and bladelet cores; few formal tools; and some sites have significant macrolithic element (Lombard *et al.* 2012).
- *Oakhurst*: 7 to 12 thousand years ago - Technological characteristics: Flake-based industry; characterised by round, end, and D-shaped scrapers and adzes; wide range of polished bone tools; and few or no Microliths (Lombard *et al.* 2012).
- *Wilton*: ~4 to 8 thousand years ago - Technological characteristics: Fully developed microlithic tradition with numerous formal tools; highly standardised backed microliths and small convex scrapers (for definition of standardisation see Eerkens & Bettinger 2001); OES is common; Ochre is common; and bBone, shell and wooden artefacts occur (Lombard *et al.* 2012).
- *final Later Stone Age*: ~1 hundred to ~4 thousand years ago - Technological characteristics: Much variability can be expected; variants include macrolithic (similar to *Smithfield* [Sampson 1974]) and/or microlithic (similar to *Wilton*) assemblages; assemblages are mostly informal (*Smithfield*); often characterised by large untrimmed flakes (*Smithfield*); sometimes microlithic with scrapers, blades and bladelets, backed tools and adzes (*Wilton*-like); worked bone is common; OES is common; Ochre is common; iron objects are rare; ceramics are absent (Lombard *et al.* 2012).
- *ceramic final Later Stone Age*: Generally <2 thousand years ago - Contemporaneous with, and broadly similar to, final Later Stone Age, but includes ceramics - Economy may be associated with hunter-gatherers or herders -Technological characteristics: Stone tool assemblages are often microlithic (for definition of 'microlithic' see Elston & Kuhn 2002); in some areas they are dominated by long end scrapers and few backed Microliths and in others formal tools are absent or rare; grindstones are common, ground stone artefacts, stone bowls and boat-shaped grinding grooves may occur; includes grit- or grass-tempered pottery; ceramics can be coarse, or well-fired and thin-walled; sometimes with lugs, spouts and conical bases; sometimes with decoration; sometimes shaped as bowls; Ochre is common; OES is common; metal objects, glass beads and glass artefacts also occur (Lombard *et al.* 2012).

Major LSA sites occurring in the Limpopo Province include: Balerno Main Shelter (Van Doornum 2007a), Goergap 113 KR (Van der Ryst 1998), New Belgium (Van der Ryst 1998), Schurfpoort 112 KR (Van der Ryst 1998) and Tshisiku Shelter (Van Doornum 2007b).

5.1.4 Rock Art

By the beginning of the Later Stone Age, human behaviours were undoubtedly modern (Huffman 2005). Uniquely human traits, such as rock art and purposeful burials with ornaments, became regular practice (Huffman 2005).

South Africa's rock art tradition is the engravings and paintings produced by forager or San communities (Smith & Ouzman 2004). Though considered predominantly shamanistic and symbolic, San rock art also concerns gender, landscape, and politics (Smith & Ouzman 2004).

In addition, Bantu-speaking farmers' rock art also exist that was made by groups that appeared in southern Africa about 2,000 years ago (Vogel 1995) from East and Central Africa (e.g., Ten Raa 1974; B. Smith 1995, 1997, 2002). This art has several distinct traditions, among them the northern Sotho initiation and protest rock arts (Smith and van Schalkwyk 2002, van Schalkwyk and Smith 2004), the rock engravings of Late Iron Age settlements (e.g., Maggs 1995), and the boys' initiation rock art of the southern Sotho and Zulu. Most of these traditions are informed by oral history, and some may continue to be practiced (Smith & Ouzman 2004).

Four areas known from the northern part of the country where rock art clusters are found, comprise the Limpopo River Valley, the Makabeng-Blouberg Mountains, the Soutpansberg Mountains and the Waterberg. Each of these areas has its own distinct iconography but also shares a number of common qualities that make it different from the south-eastern mountain complex (Blundell and Ferreira 2017). These common attributes are:

- A greater representation in the art of diverse animal species. The rock art of the south-eastern mountain complex, as well as other parts of South Africa, heavily emphasizes eland. After eland, rhaebuck and hartebeest are the most numerically important animal-images. Images of felines, elephant, domestic animals and other species do occur but are generally numerically poorly represented, both at a single site (only a single feline may be present at a site, whereas hundreds of images of eland might be present for example) and as a category of images within the corpus of rock art for a region. The rock art of the northern part of South Africa differs from that of the south-eastern mountains because there is greater species variability and numerical representation of those species both at a single shelter and throughout the corpus of rock art. Giraffe, elephant, hartebeest/tsessebe, kudu and other animals are commonly found at rock art sites. The numerical dominance of eland appears to wane in the northern parts of the country (Blundell & Ferreira 2017).

- A greater proportion of images of women when compared to other parts of South Africa. Women typically make up between 2% and 14% of identifiable human images in the rock art of most parts of South Africa but in the northern parts of the country this increases dramatically to 31% (Blundell & Ferreira 2017).
- A widespread emphasis at rock art sites of images of clothing. These images include both men's loincloths (Y-shaped images) and female aprons (stretched out skin-shapes). Such motifs are exceptionally rare in the south-eastern mountain complex but common in the northern areas of the country (Blundell & Ferreira 2017).

5.1.5 Iron Age Sequence

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 (Coetzee 2015).

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 Ndebele (Nguni-speakers) in the northern regions of South Africa with associated sites dating between the sixteenth and 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) (Coetzee 2015).

5.2 Historical overview of the Study Area and Surroundings

The archival and desktop research of the history of the study area and surrounding landscape identified a number of historical aspects which can be associated with the study area as well as its immediate surroundings. These historical facets will be discussed in more detail and in chronological sequence below.

Please note that the authors are aware of the Makapan Valley with its various historical, archaeological and palaeontological significant sites and features such as Makapan's Caves, Cave of Hearths etc. The authors are also aware that the Makapan Valley is both a National Heritage and World Heritage site. However, the Makapan Valley is located approximately 35km south-east of the study area. As a result, the Makapan Valley is not directly associated with the history of the study area and was not included in this section or overall report.

5.2.1 The Northern Transvaal Ndebele

The Ndebele-speaking people in the Mokopane and Polokwane regions (including the small Kekana group around Hammanskraal) were classified by Van Warmelo (1930) as the Northern Transvaal Ndebele. He classified the local Ndebele into Northern Transvaal Ndebele and Southern Transvaal Ndebele on the basis of geographical location; the division roughly mirrored a cultural split between the two groups. He also mapped the common descent of the Transvaal Ndebele from the original chiefdom under Musi, and outlined the succession battle following Musi's death and the formation of several chiefdoms (Lekgoathi, 2009).

The study area and its surrounding landscape are strongly associated without especially two Late Iron Age / Historic agropastoralist groups, namely the Langa Ndebele and the Kekana Ndebele.

5.2.1.1 The Langa Ndebele

The Langa Ndebele originally lived in present-day Kwazulu-Natal and was associated with the extensive and powerful Hlubi kingdom. Centuries before the rise and expansion of the Zulu kingdom, the Langa Ndebele departed from present-day Kwazulu-Natal in c. 1650. This migration was most likely led by Chief Masebe I.

Their migration from present-day Kwazulu-Natal took many years. It is understood that one of the first settlements along their migration was within present-day Swaziland. From here they moved to Ga-Maferera, on the Olifants River. The Langa Ndebele then migrated to Bošega, east of present-day Polokwane. Their closest neighbours at the time were the Matlala of the Matlala Mountains and the Kekana Ndebele of Chief Moletlane at present-day Zebediela. The Langa Ndebele stayed at Bošega for only a short period of time before moving to a hill located south-east of Polokwane known as Thaba Tšhweu. At Thaba Tšhweu a number of the Langa Ndebele chiefs ruled and died, including Masebe I, Mapuso, Podile and Masebe II. This points to a relatively long occupation of the settlement.

While residing at Thaba Tšhweu, the Langa Ndebele adopted the Sotho custom of circumcision. Some scholars believe that it was the relatively nearby Matlala people who introduced circumcision to the Langa Ndebele. The first of their leaders to have been circumcised appears to have been Chief Podile. During this same period, the Langa Ndebele obtained the medicated pumpkin for their

first fruits ceremony from the Kekana Ndebele of Moletlane. Similarly, it is believed that the Kekana Ndebele had to be notified by the Langa Ndebele before the latter Ndebele group could undertake initiation and form age-sets. These factors suggest that the Langa Ndebele were subject to the Kekana Ndebele, or that as a minimum they recognised the genealogical superiority of the Kekana Ndebele.

Masebe II was succeeded at Thaba Tšhweu as ruler by Chief Seritarita in c. 1775. Shortly after his succession, Seritarita led his people from Thaba Tšhweu to Maleoko, on the present-day farm Bultongfontein 239 KR. This farm is located approximately 4km east by south-east of the closest point along the present study area. It is therefore clear that the arrival of the Langa Ndebele at Maleoko represented the first settlement of the Langa Ndebele in the general surroundings of the present study area.

Seritarita remained at Maleoko for approximately three years before moving with his people to Moumong-wa-Matswake, located on the present-day farm Zuid-Holland 773 LR. This settlement of Moumong-wa-Matswake was also known as Mokgokgong. The farm Zuid-Holland is located north-east of the farm Utrecht, and is located approximately 3km north-east of the closest point along the present study area.

Seritarita lived at Moumong-wa-Matswake until his death, and was succeeded by Chief Mapela, the son of his third-ranking wife. Seritarita's principal wife had had no sons, whereas his son by his second-ranking wife, Makgenene (Mamaala) was not deemed fit to hold the office of chief as he was believed to have deserted his father. Furthermore, it also appears that a *ngwetši* (daughter-in-law) was married to produce an heir on behalf of the principal wife. The *ngwetši* bore a son named Mosoge. While Mosoge, as the most senior of Seritarita descendants, was therefore to have become chief in time, this never happened. Some scholars believe that he was unfit to succeed and that he preferred to spend his time farming rather than to succeed as the ruler of the Langa Ndebele. Other scholars believe that by the time that Mosoge was old enough to succeed, Mapela had entrenched his position as chief to such an extent that it was impossible for Mosoge to take over the chieftainship from Mapela. In the end, during the mfecane, Mosoga led his followers away from Moumong-wa-Matswake to settle at a small hill named Mabjanamaswana, immediately east of Thutlane, and located some distance north and west of Moumong-wa-Matswake. Incidentally, Tutlane is located approximately 30km north-west of the present study area.

At the time of his 'desertion', Makgenene moved with his followers away from Moumong-wa-Matswake and settled at Tsotsodi, on the present-day farm Planknek 43 KS, situated east of Mokopane and approximately 26.9km south-east of the present study area. Makgenene also lived at Segodini, located on the present-day farm Makapansgat 39 KS. Their settlement at Segodini was ruled by three successive chiefs, namely Makgenene, Selepe and Mphunye (Mapunya).

During the reign of Mapela, the Langa Ndebele experienced a growth period during which their number and fame increased. During his reign, Mapela incorporated a number of smaller Sotho groups and clans, some voluntary and others by force. He also managed to defeat the Phalane Nareng of Mabuela and the Pedi of Matlou. These two groups had been settled along the Mogalakwena River for some time, and had been unsuccessfully attacked by the Langa Ndebele even before their arrival at Moumong-wa-Matswake and before the succession of Mapela. It is interesting to note that a present-day settlement located approximately 10km west of the present study area, bears the name Ga-Mabuela (i.e. the place of Mabuela). The Bibidi of Šongwane were also defeated during the reign of Mapela and fled to the Bobibidi hill near Villa Nora. Similarly, the Kwena of Ramorulane and the Hurutshe of Molokomme were defeated by Mapela's forces at Senta Hill and Swartkop. The Koni of Masenya and Puka, the Tlokwa of Pila and the followers of Tšhokwe joined the Langa Ndebele voluntarily during Mapela's reign.

During his old age, Mapela moved his capital from Moumong-wa-Matswake to Fothane Hill (Moordkoppie) where he died in 1825. Fothane Hill is located approximately 2.5km south-west of the study area. After Mapela's death, Mankopane, the son of Mapela's second-ranking son, Masekamiša, was earmarked to succeed. However, at the time Mankopane was still too young and as a result, Maleya, Mapela's son from a lower ranking wife was appointed as chief. Chief Maleya ruled the Kekana Ndebele from his capital on the Ditlotswane Hills, situated approximately 4.3km north-west of the present study area.

Maleya proved to be an unpopular chief, and as soon as Mankopane was old enough to succeed he ousted Maleya and became ruler of the Langa Ndebele. Mankopane's succession is believed to have taken place around 1835 or 1836.

After Mapela's death, the Mamaala group returned to the Langa Ndebele capital and claimed the chieftainship under their current leader, Mphunye. This was denied and as indicated above, Mankopane succeeded Mapela as the chief of the Langa Ndebele. As a result, the Mamaala group planned to kill Mankopane, but without success.

During Chief Mankopane's reign, the Langa Ndebele attacked and defeated the Bibidi of Šongwane at their settlement Bobididi near Villa Nora. Villa Nora is located approximately 90km north-west of the present study area. The Langa Ndebele also attacked and scattered the copper miners of Musina, near the present-day town bearing the same name (Jackson 1983).

5.2.1.2 The Kekana Ndebele

The Kekana Ndebele group, which is associated specifically with the area around Mankopane and Zebediela, seems to be a sub-group of the so-called Northern Transvaal Ndebele (Bergh 1990) (Skhosana 2010). Skhosana (2010) references Van Warmelo (1930) and other scholars who subscribe to the view that the so-called Southern and Northern Ndebele of the Republic of South

Africa constitute a single ethnic group that claims its origin from the ancestral chief, Musi (or Msi). According to these scholars, the Ndebele originate from KwaZulu-Natal. They originally split from the main Hlubi group circa 1552 under the chieftainship of Mafana and subsequently travelled northwards.

The AmaNdebele crossed the Vaal River and entered what is today known as Gauteng, and initially settled around eMhlangeni, known as Randfontein, which is on the western side of Johannesburg. From eMhlangeni, they moved to KwaMnyamana near Pretoria, and arrived there in 1610. At KwaMnyamana, the AmaNdebele were under the chieftainship of Musi who, according to Van Warmelo (1930), had either five or six sons, namely Manala, Nzunza (or Ndzundza), Mhwaduba, Dlomu, Mthombeni and Siobasa or M'pafuli (or Mphafudi).

Historically, KwaMnyamana is considered to be an important settlement of the AmaNdebele of the Republic of South Africa, because it is the place where the AmaNdebele split into two main groups and numerous smaller sub-groups. When Musi died in 1630, a succession struggle between two of his sons, namely Manala and Nzunza (or Ndzundza), resulted in them splitting into the Southern and Northern Ndebele, respectively, as well as into other smaller groups. The Southern Ndebele comprised the followers of Manala and Nzunza while the Northern Ndebele consisted of the followers of Mthombeni. Together with his brother, Nzunza (or Ndzundza), Mthombeni left KwaMnyamana and travelled to KwaSimkhulu, north of Belfast in the present Mpumalanga Province. At KwaSimkhulu, Mthombeni parted ways with Nzunza (or Ndzundza) and moved northwards along the Olifants River until he reached the area around Zebediela. On his way northwards, Chief Mthombeni became known as Gegana (or Kekana) and his followers were referred to as the 'people of Gegana (or Kekana)' instead of remaining the 'people of Mthombeni'. In explaining how Mthombeni changed his name to Gegana (or Kekana), De Beer (cited in Skhosana, 2010) states that, "*Die naam Gegana is afgelei van die Noord-Ndebele woord, kugega, wat beteken om saam met of parallel met iets te beweeg en verwys na die feit dat Mthombeni en sy volgelinge in hulle noordwaartse migrasie al langs die Olifantsrivier op beweeg het. Daarom word daar ook na hulle verwys as Gegana nomlambo, dit wil se die Gegana wat met die revier (mulambo) opgetrek het.*"

Bergh (1990) states that the Kekana Ndebele (Mathombeni/Yangalala) settled south-east of Potgietersrus at Moletlane. According to him, this community had earlier split from the Ndzundza group. A further split within the Kekana community occurred when the Vaaltyn-Kekana established a separate community closer to the present day town of Mokopane on the farm Pruissen. This group was known as the Kekana Ndebele of Chief Mugombhane (who was also known as Sejwamadi, Mokopane and Makapane) (Bergh, 1999).

5.2.2 The arrival and settlement of the Voortrekkers and the establishment of Potgietersrus

The Historical Period within the study area and surroundings commenced with the arrival of newcomers to this area. The first arrivals would almost certainly have been travellers, traders,

missionaries, hunters and fortune seekers. However, with time, this initial trickle was replaced by a flood of white immigrants during the 1830s, when a mass migration of roughly 2 540 Afrikaner families (comprising approximately 12 000 individuals) from the frontier zone of the Cape Colony to the interior of Southern Africa took place. The people who took part in this Great Trek were named Voortrekkers (those who travel ahead) and formed part of the first mass movement of whites into the interior of Southern Africa (Visagie, 2011). The reasons behind this migration are complex, but in general terms include aspects such as a general discontent with the British authorities and the way in which they dealt with various aspects on the frontier.

In 1836, two pathfinding parties under the leadership of Louis Tregardt and Johannes Jacobus Janse (Lang Hans) van Rensburg passed the outskirts of present-day Heidelberg in a northward direction. While the exact route followed by these Voortrekkers are not always equally clear, Bergh (1999) and others contend that they followed the Olifants River (or alternatively followed a route a short distance west of the river) before passing through a poort in the Strydpoort Mountains. The Strydpoort Mountains are located approximately 56km south-east of the present study area.

However, at the Strydpoort Mountains, the two parties separated, apparently due to differences of opinion the two trek leaders held regarding the purpose of the expedition. Van Rensburg was anxious to reach Lourenço Marques to replenish his store of ammunition (for ivory hunting), while Tregardt was in favour of reaching the Zoutpansberg Mountains, now only seventy miles away. Van Rensburg's party separated from Tregardt's and they never saw each other again. The place where they parted ways has since become known as the Strydpoort—the Pass of the Quarrel (Ransford, 1968). After the separation of the two Voortrekker parties, Louis Tregardt continued northward and passed the present-day town of Polokwane before reaching the Soutpansberg. He eventually reached Delagoa Bay, where, tragically, Louis Trhcardt and many of his party died of malaria (Ransford. 1968). The Van Rensburg trek met a violent end in present-day Mozambique when they were attacked and the entire party (with the exception of two children) annihilated by a Zulu impi (www.wikipedia.org).

With time, other Voortrekker parties followed and in 1846 the Voortrekker town of Andries Orieg Stad (Ohrigstad) was established. The original Voortrekker town had a short existence, and by 1849 most of its residents had moved to the newly established Voortrekker towns of Schoemansdal (along the Soutpansberg Mountains) and Lydenburg (Changuion 1986).

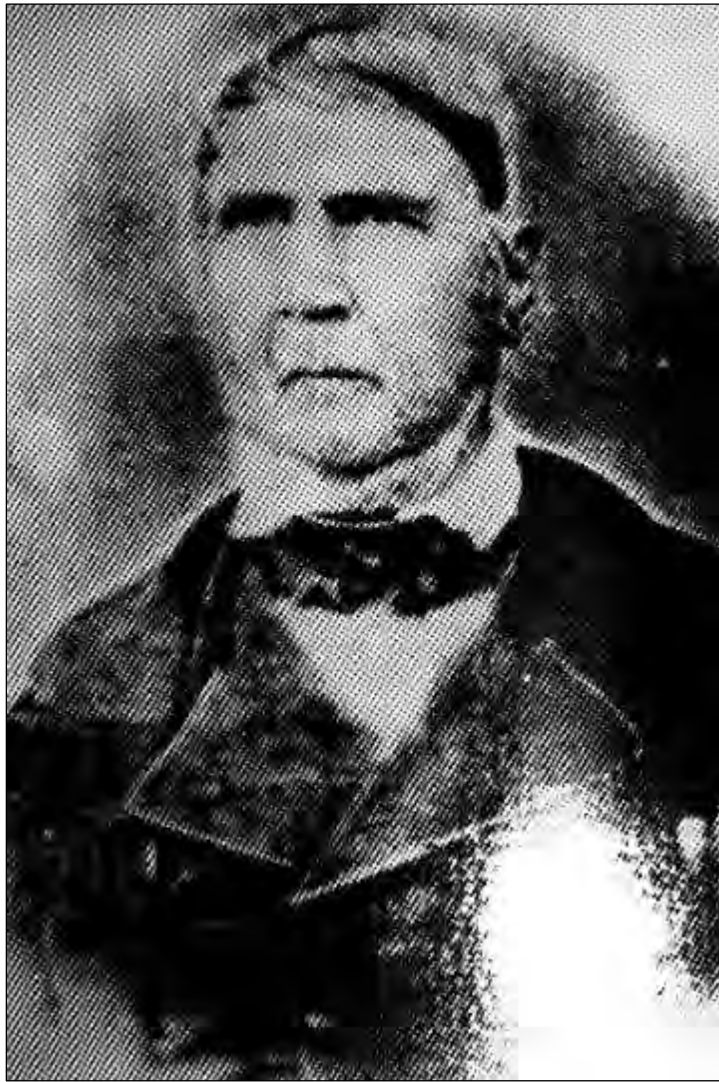


Figure 13 – Voortrekker leader Louis Tregardt (Visagie, 2011:500).

On 16 January 1852 the Sand River Convention was signed between the British Government and the Transvaal Boers. This convention formally recognised the existence and independence of the Boer Republic north of the Vaal River by the British Government. As a result, this agreement allowed for the creation of a Boer Republic, namely the *Zuid-Afrikaansche Republiek* (South African Republic) (Oberholster, 1972). The *Zuid-Afrikaansche Republiek* remained in existence until the end of the South African War in 1902.

The constitution of the newly established *Zuid-Afrikaansche Republiek* stated that each burger who had established himself within the republic before 1852, could choose and receive two farms of roughly 3 000 morgen each. Those burgers who arrived after 1852 could only obtain one such farm, and had to pay an amount of 10 shillings for it annually. The initial settlement and concentration of Voortrekkers tended to be along the Mooi River (near present-day Potchefstroom), Magaliesberg Mountains (near the present-day towns of Pretoria and Rustenburg) and Lydenburg areas. However, the establishment of farms by the Voortrekkers in the surroundings of the study area appears to have been isolated and sporadic during these early years with some settlement only

taking place during the 1850s and early 1860s (Bergh 1999).

On 19 March 1852 the Volksraad of the newly established *Zuid-Afrikaansche Republiek* approved the establishment of a town named Vredeburg in the Makanspoort area. Vredeburg was however never established (Bergh 1999).

5.2.3 Moordkoppie, Moorddrift and Pruizen

In September 1854 three events took place in the surroundings of the study area which were to have a profound impact on the history and characteristics of the surrounding landscape. Moordkoppie, Moorddrift and Pruizen, the three scenes of these events, would echo in the combined memory of both white and black residents of these parts for years to come. In fact, one of these places, Moorddrift, would be proclaimed as a National Monument in 1940, whereas a monument commemorating the victims of all three events was erected in Potgietersrus (present-day Mokopane) in 1909. The events associated with especially Moorddrift and Pruizen also led to a battle and siege which was to become synonymous with the town of Potgietersrus / Mokopane to this day, namely Makapan's Caves. Makapan's Caves were declared a National Monument in 1938 (Bergh 1999).

During late September 1854, the Langa Ndebele of Mankopane and Kekana Ndebele of Mokopane attacked three groups of Voortrekkers. A total of 28 Voortrekkers were killed during these attacks, which comprised 14 men that were killed by the Langa Ndebele near their capital at Fothane Hill (Moordkoppie), a party of 12 men, women and children killed at Moorddrift by the Kekana Ndebele and two men killed at the capital of the Kekana Ndebele on the farm Pruizen.

The attack at Fothane Hill (Moordkoppie) was first, and those killed included Voortrekker leader Andries Hendrik Potgieter's younger brother Hermanus Philippus Potgieter. The attacks at Moorddrift and Pruizen took place the following day. The three attacks taking place in such a short period of time by two different, though neighbouring Ndebele groups, suggest that the attacks were orchestrated and planned beforehand (Jackson 1983). The reasons for the Ndebele attacks on the three Voortrekker parties are explained by Dr Alex Schoeman of the University of the Witwatersrand as follows: "*Tension between the Ndebele and the Trekkers had been mounting for a number of years prior to the siege. This hostility was fuelled by the Trekkers' interest in the territory of the Kekana and Langa Ndebele because of its strategic importance as a route to the ivory-rich northern Transvaal (now Limpopo Province). In 1852 Commandant-General A.H. Potgieter intended to establish a town (De Vaal 1990: 140) in the Makapanspoort to lay claim to the route and facilitate the movement of goods and people between Schoemansdal and the Magaliesberg (Rustenburg). His objectives remained unrealized because he fell ill and died in December the same year (De Vaal 1990: 140). By 1854 the Kekana, who had fallen repeatedly victim to Trekker raids, demands and various acts of cruelty under the leadership of the Potgieters, joined a growing network of resistance against the Trekkers. In 1854 the Trekkers, who were also finding it increasingly difficult*

to exert their control over Sekwati's Pedi (Delius & Trapido 1983: 62), shifted their trade route from the Strydpoort to the Makapanspoort (Potgieter 1958: 3), and in doing so triggered a cycle of violence and resistance between themselves and the Ndebele.” (Schoeman 2010:67).

When news of the attacks reached Commandant-General Piet Potgieter at his farm near present-day Modimolle, he set about calling up a commando. Within a relatively short period of time his commando numbered 150 men from essentially the Schoemansdal (Zoutpansberg) Voortrekkers. However, he realised that more men were required, and requested the assistance of Commandant-General Marthinus Wessel Pretorius of the Magaliesberg (Rustenburg) Voortrekkers. The news of the attacks reached Pretorius on 25 September 1854, and he immediately started calling up his men. By 14 October 1854 his commando numbered 334 men, with whom he proceeded northwards to assist Commandant-General Piet Potgieter. For reasons not presently clear, the combined Voortrekker force of nearly 500 men ignored the Langa Ndebele and proceeded to attack the Kekane Ndebele of Mokopane at their defensive stronghold known today as Makapan's Caves. The Voortrekkers placed the cave under siege, which lasted from 25 October to 21 November 1854. By the end of the siege, nearly 2 000 members of the Kekana Ndebele had lost their lives (Jackson 1983). Schoeman (2010) states that a number of Ndebele women and children were also captured during the siege. On the Voortrekker side, Naidoo (1987) indicates that two Voortrekkers were killed during the siege and a number wounded. One of those Voortrekkers killed during the siege was Commandant-General Piet Potgieter, and it was his name that was commemorated in the naming of the nearby town that was established in September 1858, namely Piet Potgietersrust.

After the lifting of the siege, the Voortrekkers proceeded to Fothane Hill to attack the Langa Ndebele. However, fearing reprisals from the Voortrekkers, Mankopane and his Langa Ndebele had fled from Fothane Hill to a flat-topped and steep-sided mountain named Magagamatala on the present-day farm Ruigtevley 710 LR. Magagamatala is located approximately 40km north-west of the present study area.

Moordkoppie (Fothane Hill) is the closest of the three attacks of September 1854 to the present study area. Jackson (1983) states that the scene of the attack on Hermanus Potgieter and his party at Fothane Hill took place in proximity to where the Kgabare Primary School is located today. This school appears to be located approximately 1.8km south-west of the present study area.



Figure 14 – Historic photograph depicting the unveiling of the memorial to the Voortrekkers who had lost their lives at Moordkoppie, Moorddrift and Pruizen. This monument was erected and unveiled in the square adjacent to the town hall of Potgietersrus in 1909 (Combrink 1954:18).

5.2.4 Establishment of Piet Potgietersrust and the conflict between the Langa Ndebele and the Transvaal Republic

In September 1858 the Volskraad approved the establishment of a new town that was to be named Piet Potgietersrust in honour of Commandant-General Piet Potgieter (the son of Commandant-General Andries Hendrik Potgieter) who was killed during the siege of Mokopane (see section above). In December 1860 Commandant-General Stephanus Schoeman announced that the laying out of the town would commence on 10 December 1860. Work on the development of the town proceeded slowly, and by 21 January 1861 only a water furrow had been dug. By September 1862, however, a number of residents had settled down in the newly established town (Bergh 1999).

The establishment and early existence of the town of Piet Potgietersrust became synonymous with the conflict between the Langa Ndebele of Chief Mankopane and the Transvaal Republic. The first serious battle between the two groups took place on 14 April 1858, when in retaliation for incursions and attacks by Mankopane's men, his mountain stronghold named Magagmatala was attacked by a force commanded by Commandant-General Stephanus Schoeman. During the attack, the later President of the *Zuid-Afrikaansche Republiek*, Commandant S.J.P. (Paul) Kruger played a crucial role and the Langa Ndebele suffered a devastating defeat. In the words of Jackson (1983:18) "...it is said that some 800 of Mankopane's subjects were killed that night." As a result of the attack of 14 April 1858, Mankopane moved his capital to Thutlwane Hill on the farm Kromkloof 744 LR. Thutlwane is located approximately 30km north-west of the present study area (Jackson 1983).

In January 1868 the town of Piet Potgietersrust was attacked by the Kekana Ndebele of Mogemi, who acted as regent for Mokopane II. His attack on the town was supported by Mankopane's Langa Ndebele. The increasing conflict between the two sides came to a head on 2 March 1868, when a Boer Commando commanded by Commandant Paul Kruger laid siege to Mogemi and his followers

at Sefakaulo Hill near Piet Potgietersrust. In the time that Sefakaulo Hill was under siege, Mankopane's men raided a number of farms in the surroundings of the town. Realising the threat posed by Mankopane, and concluding that he did not have the manpower to force Mogemi's surrender, Kruger decided to rather attack Mankopane at Thutlwane. This attack started on 13 June 1868, and continued for a couple of days. Although Kruger's force managed to occupy most of the mountain stronghold at Thutlwane, Chief Mankopane eventually proved victorious in the battle and forced Commandant Kruger, who by now was running low on ammunition and supplies, to order his men back to Piet Potgietersrust (Jackson 1983).

A peace accord between the Boers and the Langa Ndebele was eventually agreed upon on 6 July 1869. However, this provided little stimulus for the growth and development of Piet Potgietersrust. By 1870 the entire white population of town had been evacuated *inter alia* due to the effects of Malaria. The evacuation and abandonment of the town continued from 1870 until 1890, when Piet Potgietersrust was re-occupied (Bergh 1999).

On 30 May 1877, a few years after the evacuation of the white population of Piet Potgietersrust, Chief Mankopane passed away at Thutlwane. He was buried here the following day, and his son Masebe succeeded as chief of the Langa Ndebele on 3 June 1877 (Jackson 1983).



Figure 15 – Historic photograph of various chiefs from the then Zoutpansberg District who were called to a meeting in Pretoria with Captain Oscar Dahl in August 1881. Chief Masebe of the Langa Ndebele is standing behind Dahl and to his right, with Chief Mokopane II of the Kekana Ndebele standing left of Dahl (De V. Pienaar, 1990:166).

Between 1883 and 1886 a war raged between the Langa Ndebele of Masebe and the Kekana Ndebele of Mokopane II. While the exact localities for the various events associated with this war

are not presently known, at least one of the battles appear to have taken place along the Mogalakwena River. On this occasion, Masebe's forces slept at Fothane Hill (Moordkoppie) the night before the battle. The war came to an end when State President Paul Kruger visited these parts and ordered Masebe and Mokopane II to appear before him, upon which he insisted that they make peace (Jackson 1983).

From 1890 onwards, and under the leadership of Commandant Henning Pretorius, the town was of Piet Potgietersrus developed and expanded (Bergh 1999). Incidentally, Commandant Pretorius was an early owner of two of the farms from within the study area, namely Utrecht and Overysel.

5.2.5 Registration and Early History of some of the farms from within the Study Area

In this section the farm ownership histories of some of the farms from within the study area and its surroundings will be presented. Farm ownership histories were obtained for the farms Utrecht 776 LR, Overysel 815 LR, Zwartfontein 818 LR and Blinkwater 820 LR. These farm ownership histories were obtained from the Register of Deeds (RAK) files preserved at the National Archives in Pretoria. The farm ownership histories will be presented on a farm-by-farm basis. Please note that the farm ownership histories presented here stop at the point where the available archival record ends.

The farm ownership histories are presented here as three out of the four farms were inspected in 1889, with one farm, namely Zwartfontein, already inspected in 1869. As a result, the inspection of these four farms would have taken place before the establishment of so-called 'native locations' within the surroundings of the study area.

5.2.5.1 Utrecht

The farm Utrecht 776 KR was first inspected by P.G. van Deventer in November 1889 as farm 1821 of the Waterberg District. It was later renumbered as farm 402 of the same district. At the time, Van Deventer held the position of Field-Cornet for the Nylstroom Ward of this district. The farm was registered on 4 February 1895, and transferred to its first owner Christiaan B. Coetzee. On the following day, and in terms of an Order of the Court (the details of which is not presently known), the farm was transferred from C.B. Coetzee to Henning Petrus Nicolaas Pretorius. H.P.N. Pretorius remained in possession of the farm until his death two years later in 1897, when the farm was transferred from his estate to Christiaan Karel van Trotsenberg. On 12 February 1909, roughly 12 years after taking ownership of the farm, it was transferred from C.K. van Trotsenberg to Elizabeth Hendrika van Trotsenberg (born Morsman). Ms. Van Trotsenberg remained in possession of the farm for the following eight years and on 20 November 1917, the farm was transferred to Charles Maggs. On 14 June 1922 the farm was subdivided for the first time, and divided into three portions with a portion transferred to each of the three new owners, namely Nicolaas Stephanus Wolmarans, Gabriel Matthys Wolmarans and Roelof Josephus Johannes Fritz. On 18 March 1927 a Deed of Partition was agreed upon by the three owners of the farm, with Portion A (named Sukkelaar)

transferred from the Joint Owners to Gabriel Matthys Wolmarans, Portion B (named Goede Hoop) transferred from the Joint Owners to Nicolaas Stephanus Wolmarans and the Remaining Extent transferred from the Joint Owners to Roelof Josephus Johannes Fritz. Interestingly, the grave of Roelof Josephus Johannes Fritz lies buried a short distance from the present study area components.



Figure 16

Under the leadership of Commandant Henning Petrus Nicolaas Pretorius the town of Piet Potgietersrust developed and expanded (Combrink 1954:30). Pretorius was also one of the early registered farm owners of the farms Utrecht and Overysel. Amongst other positions held, Pretorius was the commanding officer of the Republic of the Free State Artillery before the South African War.

5.2.5.2 Overysel

The farm Overysel 815 LR was first inspected by P.G. van Deventer as farm 1822 of the Waterberg District. It was later renumbered as farm 403 of the same district. Although the date of inspection is not shown on the archival file, it can be assumed that its would also have taken place in November 1889. As indicated above, P.G. van Deventer held the position of Field-Cornet for the Nylstroom Ward of this district at the time. The farm was registered on 4 February 1895, and transferred to its first owner Samuel Benson. On the following day, and in terms of an Order of the Court (the details of which is not presently known), the farm was transferred from S. Benson to Henning Petrus Nicolaas Pretorius. H.P.N. Pretorius remained in possession of the farm until his death two years later in 1897, when the farm was transferred from his estate to Petrus Jacobus Joubert and Frederik Casper Stiemens. Interestingly enough, the Petrus Jacobus Joubert referred to here was none other than General Piet Joubert, the Commandant-General of the Zuid-Afrikaansche Republiek between 1880 and 1900. It is important to note, however, that the farm Overysel would never have been General Joubert's place of residence, as he was a resident of

Pretoria and quite likely owned a number of farms across the Transvaal Republic. On 10 August 1907, one half share of the farm Overysel was transferred from the estate of Frederik Casper Stiemens to his widow, Catharina Maria Anna Stiemens (born Bergsma). She remained in possession of this one half share in the farm until her death in 1915, when her portion of the farm was transferred from her estate to the firm Tager & Lifschitz. On 19 March 1915, the same one half portion of the farm was transferred from Tager & Lifschitz to Hyman Lifschitz. On 24 March 1920, this one half share in the farm was transferred from Hyman Lifschitz to Isaac Lifschitz and Rebecca Lifschitz (born Chaitow). On 31 August 1917 the other one half portion of the farm was transferred from the estate of P.J. Joubert to the estate of his wife, Hendrina Susanna Johanna Joubert (born Botha). Slightly more than a year later, on 19 December 1918, this portion was transferred from H.S.J. Joubert (born Botha) to Gerald Coote King. On 25 January 1922, one quarter share in the farm was transferred from Gerald Coote King to Gerard Emil Haupt. On the same day, one half share in the farm was transferred from G.C. King and G.E. Haupt to Isaac Lifschitz.



Figure 17 – General Piet Joubert (centre) with his staff during the South African War. General Joubert was the Commandant-General of the Zuid-Afrikaansche Republiek between 1880 and 1900 (Warwick 1980:73). General Piet Joubert received a portion of the farm Overysel from the estate of Commandant Henning Petrus Nicolaas Pretorius in 1897.

On 9 December 1925, the farm Overysel was transferred from Isaac Lifschitz and Rebecca Lifschitz (born Chaitow) to Potgietersrust Platinums Limited. This mining company held onto the farm Overysel for the next 13 years. On 23 February 1938 the farm was transferred from Potgietersrust Platinums Limited to the South African Native Trust. On 13 November 1942, the farm was transferred from the South African Native Trust to the Minister of Native Affairs for the “...Langa Tribe under Chief Johannes Masibi Langa.”

5.2.5.3 Zwartfontein

The farm Zwartfontein 818 LR was first inspected by J.A. Smit on 4 November 1869. Smit appears to have been the chairperson of the Inspection Commission based in Pretoria, and was *inter alia* tasked with the inspection of farms in the Nylstroom Ward of the Waterberg District. The farm was again inspected by P.G. van Deventer on 6 July 1888. As indicated above, Van Deventer held the position of Field-Cornet for the Nylstroom Ward of this district at the time. It would appear that the farm was first numbered as farm 1174 of the Waterberg District, albeit it was later renumbered as farm 121 of the same district. It was registered on 6 February 1871, and transferred to its first owner Johannes Christoffel Raats on the same day. On 9 September 1875, the farm was transferred from Raats to Cornelis Botha. On the same day, the farm was transferred from Botha to John Crause Bailie and again on the same day, transferred from Bailie to Thomas King. The farm remained in the possession of Mr King for the subsequent 13 years, when on 24 December 1887, it was transferred from King to Richard Ryall. On 31 October 1895, Ryall sold the farm to Edwin Caldicott. The archival reference indicates that this transaction was undertaken in accordance with an Order of Court. Caldicott remained in possession of the farm until 1913, when on 8 August 1913, the farm was transferred from E. Caldicott to Marcus Masibi Langa “...in his capacity as the chief of the Langa Tribe of Natives and in Trust for the Tribe.”

5.2.5.4 Blinkwater

The farm Blinkwater 820 LR was first inspected by P.G. van Deventer on 6 July 1888 as farm 1706 of the Waterberg District. As indicated above, P.G. van Deventer held the position of Field-Cornet for the Nylstroom Ward of this district at the time. The farm was later renumbered as farm 361 of the same district. The farm was registered on 6 February 1895, and transferred to its first owner Jan Daniel Venter. On 22 February 1895, and in terms of an Order of the Court (the details of which is not presently known), the farm was transferred from J.D. Venter to William George Baker and Albert Weir Baker. These individuals remained in possession of the farm for the remainder of their lives. On 18 March 1919, roughly 24 years after their acquisition of the farm, it was transferred from the estates of W.G. Baker and A.W. Baker to Carl Albert William Schultz. On 23 June 1923, the farm was transferred from C.A.W. Schultz to Arnold Michael Nupen. On 3 December 1932, the farm was transferred from A.M. Nupen to Peter Cornelius Nupen. On 1 August 1937 the farm was transferred from P.C. Nupen to the South African Native Trust. Five years later, on 13 November 1942, the farm was transferred from the South African Native Trust to the Minister of Native Affairs for the “...Langa Tribe under Chief Johannes Masibi Langa.”

5.2.6 Establishment of ‘Native Locations’ in the Surroundings of the Study Area

After the dramatic defeat of the British forces under command of Major General Sir George Pomeroy Colley to the Boers at the Battle of Majuba on 27 February 1881, the First Boer War (also known as the Transvaal War of Independence) came to an end. The formal peace agreement between the British Government and Boers was signed on 5 April 1881 in Pretoria and became

known as the Pretoria Convention. The agreement was ratified by the Transvaal Volksraad on 3 August 1881 and was superseded by the London Convention of 1884.

Three sections from the Pretoria Convention are of importance for the present study. These sections are provided verbatim below, and deal with the creation of a so-called 'Native Location Commission' which had to reserve or proclaim defined locations within the Transvaal Republic for the various black groups who lived within its borders. The three sections are as follows:

XIII. Natives will be allowed to acquire land, but the grant or transfer of such land will in every case be made to, and registered in the name of, the Native Location Commission, hereinafter mentioned, in trust for such natives.

XXI. Forthwith, after the taking effect of this Convention, a Native Location Commission will be constituted, consisting of the President (or in his absence the Vice-President) of the State, or some one deputed by him, the Resident, or some one deputed by him, and a third person to be agreed upon by the President (or the Vice-president, as the case may be) and the Resident; and such Commission will be a standing body for the performance of the duties hereinafter mentioned.

XXII. The Native Location Commission will reserve to the native tribes of the State such locations as they may be fairly and equitably entitled to, due regard being had to the actual occupation of such tribes. The Native Location Commission will clearly define the boundaries of such locations, and for that purpose will, in every instance, first of all ascertain the wishes of the parties interested in such land. In case land already granted in individual titles shall be required for the purpose of any location, the owners will receive such compensation, either in other land or in money, as the Volksraad shall determine. After the boundaries of any location have been fixed no fresh grant of land within such location will be made, nor will the boundaries be altered without the consent of the Location Commission. No fresh grants of land will be made in the districts of Waterberg, Zoutpansberg, and Lijdenberg, until the locations in the said districts respectively shall have been defined by the said Commission (www.sahistory.org.za).

The Transvaal Location Commission as it is sometimes referred to, existed between 1881 and the outbreak of hostilities during the South African War in 1899. Initially, its members were Paul Kruger (Vice-President of the *Zuid-Afrikaansche Republiek*), George Hudson (British Resident in the Transvaal Republic) and H.J. Schoeman. Later, Kruger was replaced by the Superintendent of Native Affairs, General P.J. (Piet) Joubert with Fritz Stiemens as the Commission Secretary. After the Pretoria Convention was replaced by the London Convention in 1884, the members of the commission also changed. By 1891, the work of the commission was replaced by a meeting that was called in every district of the Transvaal Republic and which was attended by the relevant district's magistrate, commandant field-cornets (Bergh 1999).

In May 1882, shortly after the adoption of the Pretoria Convention, the Executive Council of the *Zuid-Afrikaansche Republiek* was instructed by the Location Commission to already decide which

black groups would be allocated locations. Only 17 black groups were included in this initial list, and in terms of the surroundings of the present study area this list included the Langa Ndebele as well as the Kekana Ndebele of Mugombhane (Makapan) (Bergh 1999).

On 26 May 1890 the Location Commission visited Potgietersrus, and found that Chief Mugombhane had passed away a few months before. As a result, the commission met and negotiated with the regent Ntala (known to the commission members as Willem Makapan). The Location Commission proceeded to demarcate the farms Makalakaskop 2324, Knapdaar 1548 (portion), Tweefontein 1033 (portion), Rietfontein 1562, Turfspruit 2323 and Pietpotgietersrust 2247 (portion) as a location for the Kekana Ndebele. In January 1894 the Location Commission declared that the Mogalakwena River would define the south-western boundary of the reservation, through which small sections of the following farms were added to the reservation: De Hoogedoorn 706, Blinkwater 707 and Lisbon 2366. At the same time, the portion of the farm Pietpotgietersrust 2247 that was originally included, was now excluded from the reservation (Bergh, 1999).



Figure 18 – Historic photograph of a meeting between an official of the Transvaal Republic and a person believed to be Chief Mugombhane of the Kekana Ndebele (Cartwright & Cowan 1978:10). The Location Commission visited the Langa Ndebele between 10 and 13 June 1890. However, they found that Chief Masebe, who had succeeded Mankopane in 1877, had passed away in May 1890 and a succession dispute between his sons Hans and Backenberg Masebe were underway at the time of the Location Commission's visit. This resulted in the partitioning of the area set aside for the Langa Ndebele, with one section falling under Hans Masebe and the other Backenberg Masebe. These two sections adjoined each other and comprised the following farms: Van Dykspan (possible Van Wykspan 589) (portion), Haakdoorndraai 661, Hel en Bricksteen 2102, Elandsfontein 594 (portion), Goedehoop 928 (portion), Malokong 2114, Vogelstruisfontein 593 (portion), Schoonoord 1610, Vliegekraal 2250, Vriesland 1704, Groningen 1349, Bellevue 1705 (portion),

Moordkop 1528, Molendraai 1546 (portion), Zwartfontein 1542 (portion), Commandodrift 1609 (portion), Gezond 1535, Zandsloot 1526 and Knapdaar 1548 (portion). By 1904, the following farms had been added to the location: Malakongskop 1332, Mozambique 1336 (portion) and Inhambane 1335. The following farms had been excluded by 1904: Van Dykspan (possibly Van Wykspan 589), Elandsfontein 594 and Goedehoop 928. The farm Haakdoorndraai 661 was bought by Backenberg Masebe and added to his property. Similarly, the farm Drenthe 2314 was bought by Hans Masebe and added to his property (Bergh, 1999).

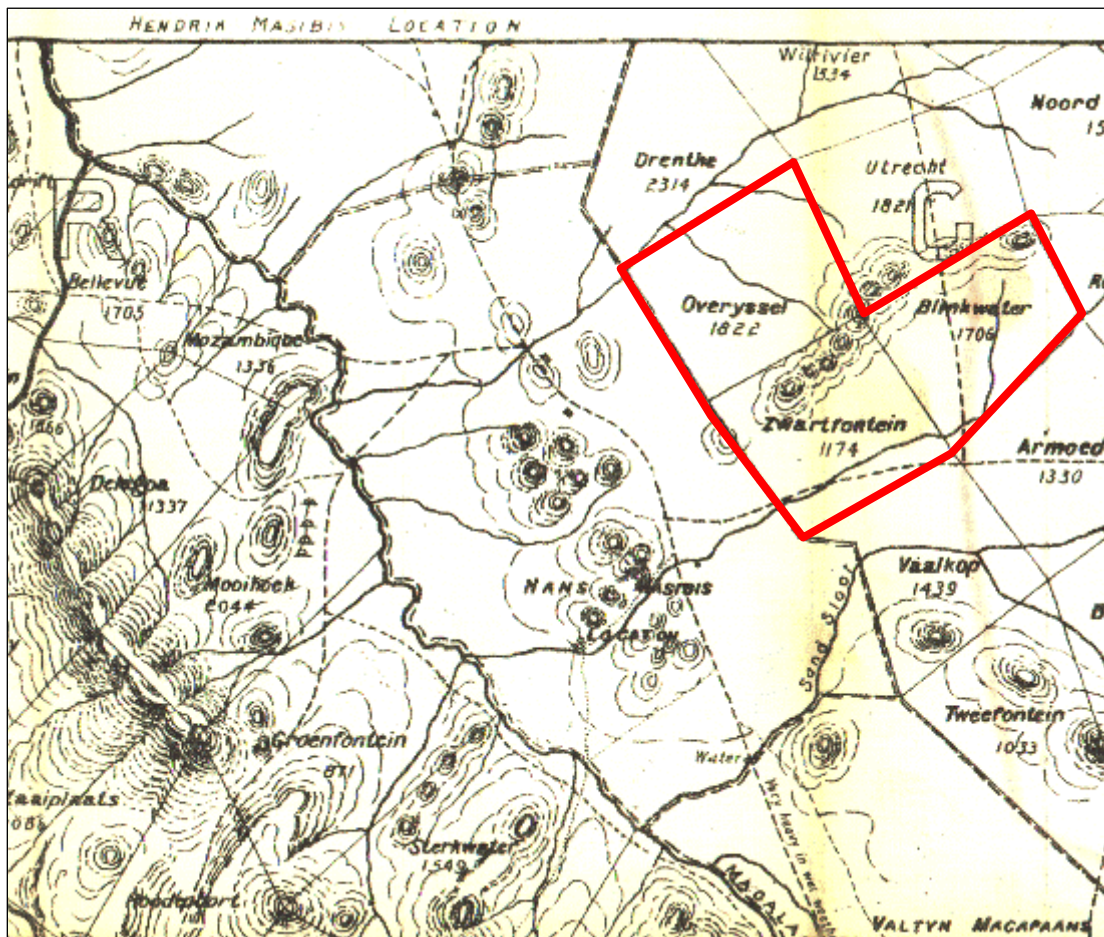


Figure 19 – Detail view of the Nylstroom-Pietersburg Sheet of the Major Jackson Map Series that was compiled during the South African War. This particular sheet is the revised edition dated to June 1901. The boundaries of the three 'native locations' located closest to the study area are shown in stippled line. The farms Overysel, Blinkwater and Zwartfontein are enclosed in red.

5.2.7 From Location to Lebowa: the Study Area and Surroundings from c. 1890 into the Twentieth Century

The partition of the Langa Ndebele into sections falling under the two sons of Mapela had a profound impact on this Nguni group. The southern section of the overall location that was allocated to the Langa Ndebele in 1890, was established as the land of Chief Hans Masibi and his followers whereas the northern section of the location was given to Chief Backenberg Masibi. Incidentally, the southern section included Fothane Hill where the old capital of Chief Mapela was once located. As a result, this southern chiefdom became known as *ba ga Mapela* (those of Mapela's place) (Jackson 1983).

Jackson (1983:39) makes the following interesting comment regarding the composition of the two partitioned Langa Ndebele groups. He states that “...almost all the Sotho subjects of the Langa supported Hans, whereas the majority of the Langa clansmen supported Bakenberg. In this way the chieftom that went to Hans comprised a high percentage of people of alien (mainly Sotho) stock and a small percentage of Lange clansmen.”

With the partition of the Langa Ndebele, Chief Hans Masibi moved his capital from his father’s seat of residence at Thutlwane to the eastern foot of Mogope Hill. Mogope Hill is located approximately 4.1km west by south-west of the present study area, and the Mapela capital was situated here from 1890 to 1957 (Jackson 1983).

The years of the partition saw conflict between the Mapela on the one side, and followers of Chief Backenberg Masibi on the other. Raids and attacks were undertaken from both sides during these years, and lasted until April 1901, when the British Army occupied Pietersburg (present-day Polokwane) and ordered the two chiefs to stop fighting. During the period of war and bloodshed associated with the partition, Chief Hans Masibi had four of his uncles who had supported his brother’s succession, shot at Raphaga Hill. This event took place in 1900. Raphaga Hill is located approximately 3.3km south-west of the study area.

After the death of Chief Hans Masibi on 29 November 1905, his uterine brother Marcus Masibi was appointed as regent. On 8 August 1913, the farm Zwartfontein 818 LR was registered in the name of Chief Marcus in trust for the Mapela people. The farm was purchased by the people of Mapela (Jackson 1983). As a result, the section of the study area falling within the farm Zwartfontein became the property of the Mapela in 1913.

The Mapela chieftom purchased the farms Bavaria 678 LR, Blinkwater 680 LR and Scirappes 681 LR in 1926. The funds for the purchase of the three farms came from the sale of the mineral rights of the farm Zwartfontein 818 LR, where platinum had been mined for some time (Jackson 1983). The present study area includes a section of this farm.



Figure 20

Chief Hans Masibi, the ruler of the Langa Ndebele and Mapela from 1890 to 1905 (Jackson 1983:38).

In 1941, during the reign of Nkgalabe Johannes Masibi, the farms Blinkwater 820 LR, Leyden 804 LR, Overysel 815 LR and Vaalkop 819 LR, which had been purchased by the South African Development Trust, were transferred to the Mapela in exchange for three farms, namely Bavaria, Blinkwater and Scirapps (Jackson 1983). In this way, the sections of the study area falling within the farms Blinkwater and Overysel became the property of the Mapela in 1941.

The apartheid-created bantustan or “homeland” of Lebowa was given interal self-government on 2 October 1972, with its capital initially at Seshego and later at Lebowakgomo (Bergh 1999). It is expected that during the existence of Lebowa, all the farms from within the study area fell or came to fall within the boundaries of this bantustan. In 1994, all the former bantustans were fully incorporated into South Africa again.

5.3 Archival and Historical Maps

An assessment of available archival and historical maps was undertaken as a way to establish a historic layering for the study area. These historic maps are also valuable resources in identifying possible heritage sites and features located within the study area.

5.3.1 First Edition of the 2328DD Topographic Sheet

This section deals with the First Edition of the 2328DD Topographical Sheet. This map sheet was based on aerial photography undertaken in 1965, was surveyed in 1970 and drawn in 1971 by the Trigonometrical Survey Office.

Overlays of the individual study area components over this map sheet are provided in images below. Any observations that can be made from these map depictions, are individually discussed below.

- North Waste Rock Dump

A total of 14 huts are depicted within the North Waste Rock Dump area. A number of these huts were identified as historic black homesteads during the fieldwork. For the most part, these huts are depicted along the northern boundary of this study area component.

It is interesting to note that no burial grounds are depicted within the study area component. This is also true for the extensive cemetery that was identified during the fieldwork at site MMEP 10.

- Blinkwater TSF

A total of 20 huts are depicted within the Blinkwater TSF area. A number of these huts were identified as historic black homesteads during the fieldwork.

A single structure is depicted near the south-western corner of the Blinkwater TSF area. This structure may have been a farmstead. No evidence for this feature could be identified during the present fieldwork.

A shop is depicted near the eastern end of the Blinkwater TSF area. This shop was identified during the fieldwork, and is included in this report as site MMEP 4.

Again, it is interesting to note that no burial grounds are depicted within the study area component.

- Mine Workshop Expansion Area

A total of four huts are depicted within the Mine Workshop Expansion Area. Due to the disturbed nature of this study area component, none of these huts could be identified during the fieldwork.

- Third Concentrator Site

One hut is depicted within the Proposed Third Concentrator Site. Due to the disturbed nature of this study area component, this huts could not be identified during the fieldwork.

- Third Concentrator and Laydown Area

A total of three huts are depicted within the Proposed Third Concentrator and Laydown Area. These huts could not be identified during the fieldwork.

- Proposed Laydown Area

No map features are depicted within the Proposed Laydown Area. Interestingly, a cemetery was identified immediately south of this study area component (see site MMEP 66). This cemetery is not depicted on this map.

- Buffer Dam

No map features are depicted within the proposed Buffer Dam.

- Temporary Accommodation Facility

No map features are depicted within the Temporary Accommodation Facility.

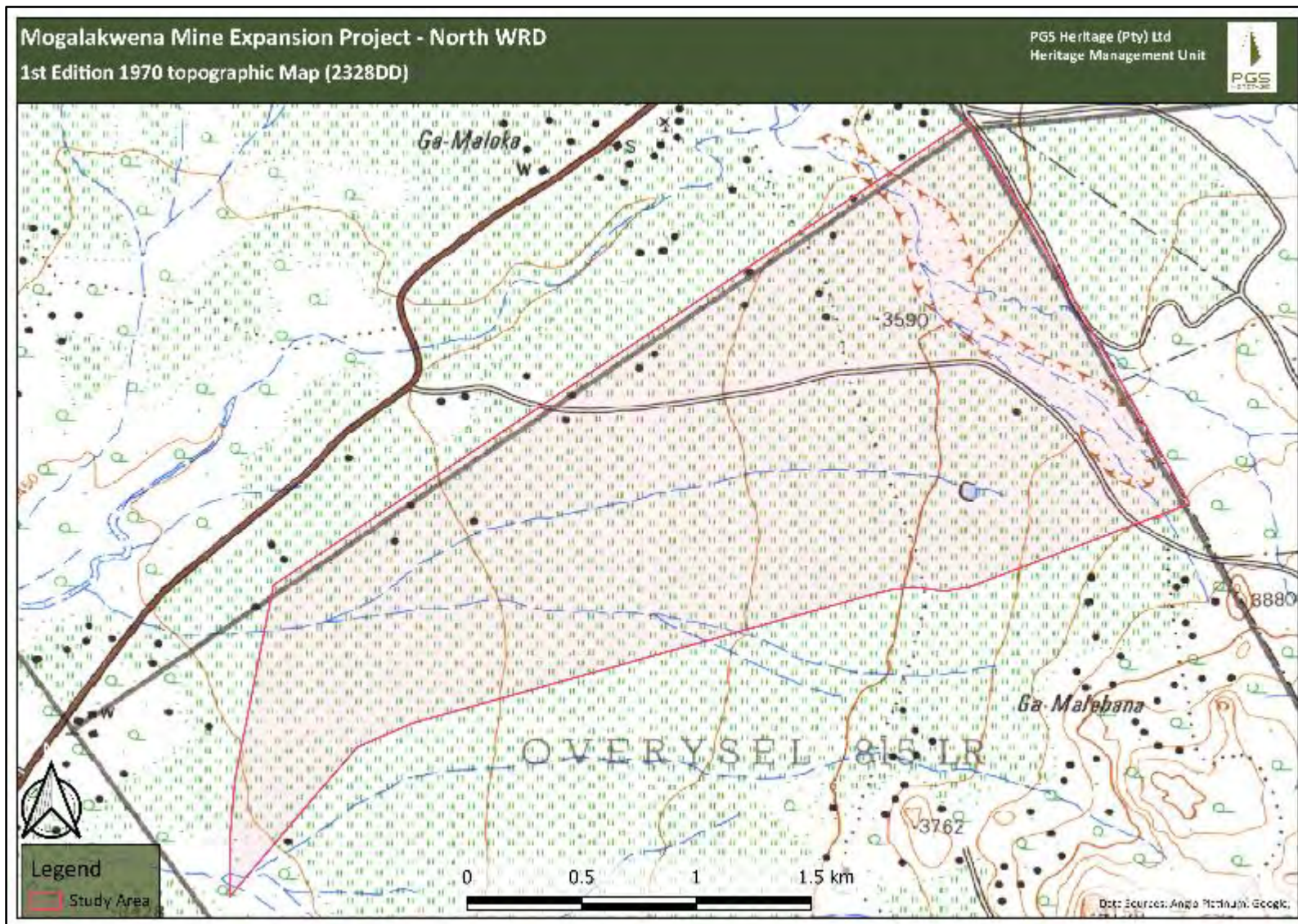


Figure 21 – Overlay of the study area boundaries over the First Edition of the 2328DD Topographic Map Sheet surveyed in 1970. The proposed North Waste Rock Dump is depicted on this map. Observations that can be made from this map depiction are provided in the accompanying text.

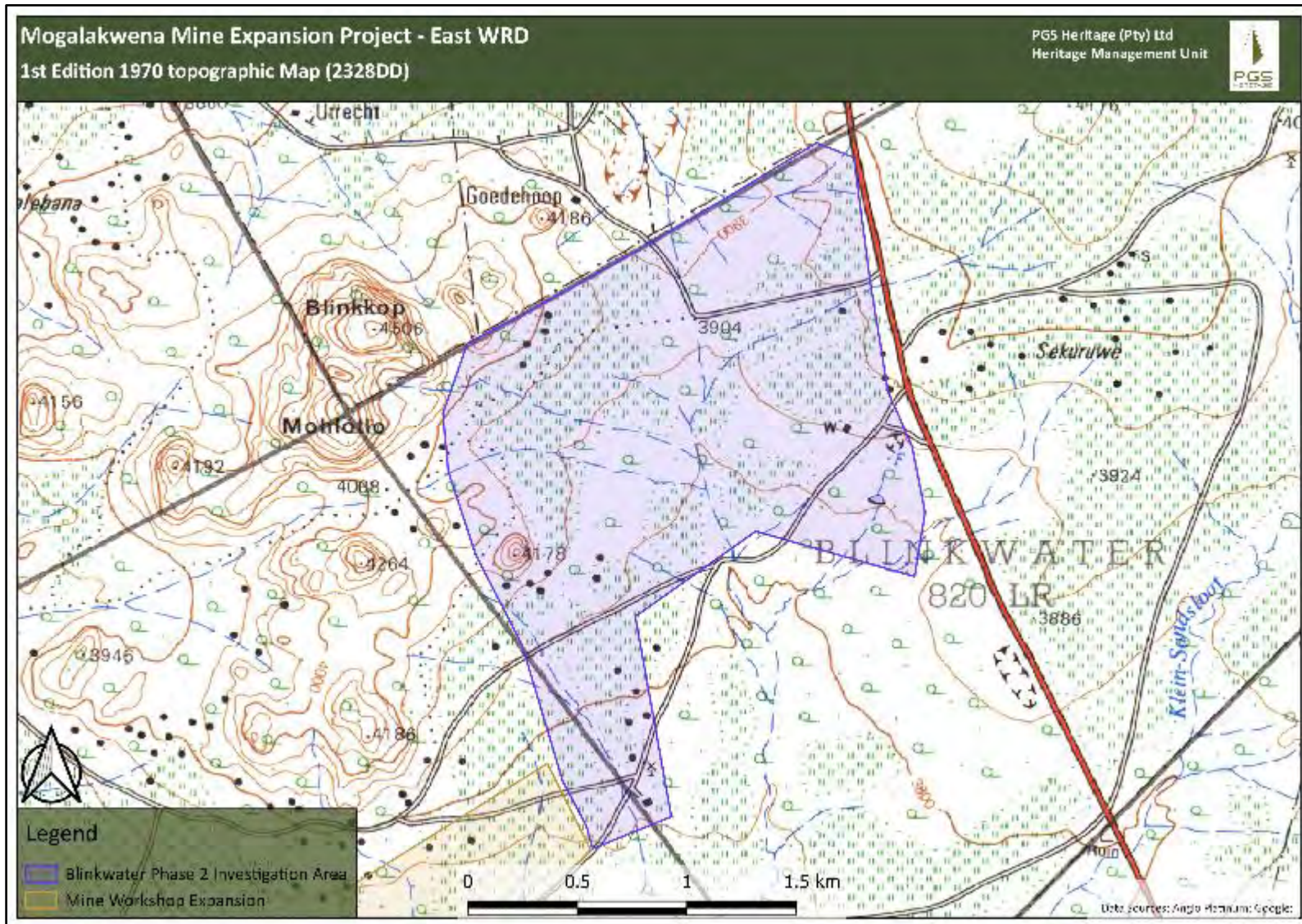


Figure 22 – Overlay of the study area boundaries over the First Edition of the 2328DD Topographic Map Sheet that was surveyed in 1970. The proposed Blinkwater TSF is depicted on this map. Observations that can be made from this map depiction are provided in the accompanying text.



Figure 23 – Overlay of the study area boundaries over the First Edition of the 2328DD Topographic Map Sheet that was surveyed in 1970. A number of the proposed study area components are depicted on this map. Observations that can be made from this map depiction are provided in the accompanying text.

5.3.2 First Edition of the 2428BB Topographic Sheet

This section deals with the First Edition of the 2428BB Topographical Sheet. This map sheet was based on aerial photography undertaken in 1965, was surveyed in 1969 and drawn in 1970 by the Trigonometrical Survey Office.

Only two of the study area components are depicted on this map sheet, namely the proposed Sandsloot River Diversion and the South Concentrator Debottlenecking Plant.

- Sandsloot River Diversion

A total of five huts are depicted within the proposed Sandsloot River Diversion area. Although some concrete foundations were observed in this area during the fieldwork, these were not recorded as the largest majority of these foundations had already been destroyed by mining activities.

- South Concentrator Debottlenecking Plant

No map features are depicted within the proposed South Concentrator Debottlenecking Plant.

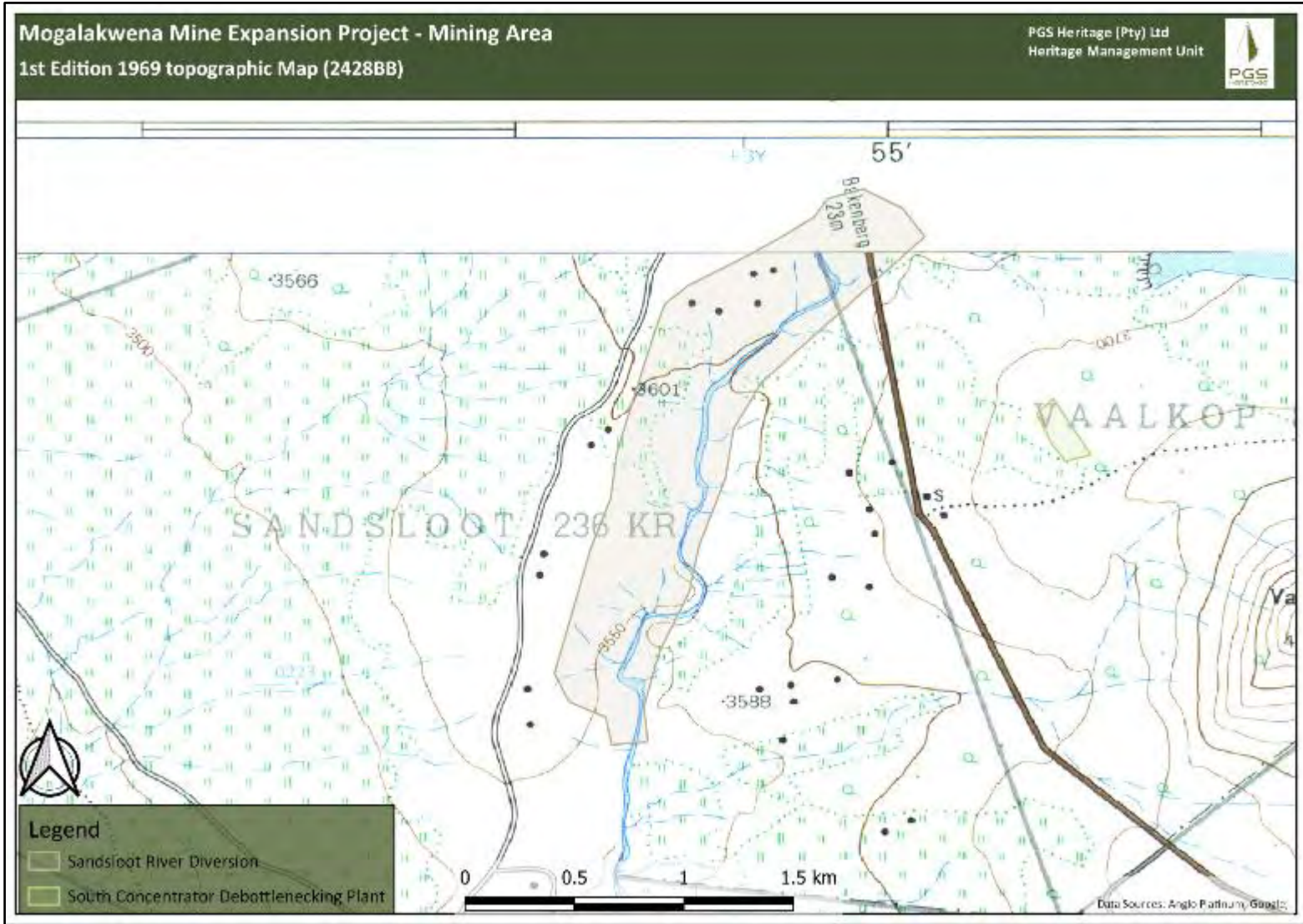


Figure 24 – Overlay of the study area boundaries over the First Edition of the 2428BB Topographic Map Sheet that was surveyed in 1969. The proposed Sandsfoot River Diversion and South Concentrator Debottlenecking Plant are depicted on this map. Observations that can be made from this map depiction are provided in the accompanying text.

5.4 Previous Heritage Impact Assessment Reports from the Study Area and Surroundings

An assessment of the South African Heritage Resources Information System (SAHRIS) of SAHRA was undertaken to establish whether any previous archaeological and heritage impact assessments had revealed archaeological and heritage sites within, and in close proximity, to the present study area footprints.

This assessment has revealed that a number of previous studies had been undertaken in the surroundings of the study area, with various heritage and archaeological site types identified.

All these previous studies located on the SAHRIS system, will be briefly discussed in chronological order below. In each case, the results of each study is shown in bold.

- ROODT, F. 2008. Phase 1 Heritage Resources Scoping Report Mogalakwena Bulk Water Supply Scheme - Phase 1 of Zone 1 Mokopane: Limpopo. **No historical or archaeological resources were uncovered in this assessment except for several burial grounds.**
- ROODT, F. 2008. Phase 1 Heritage Impact Assessment (Scoping & Evaluation) Landfill and Salvage Yard, Anglo Platinum: Mogalakwena Section, Limpopo. **A low significance MSA stone tool scatter was uncovered in this assessment.**
- COETZEE, F.P. 2011. Cultural Heritage Survey of the Proposed Provincial Road Deviation (P4380) Project for the Mogalakwena Platinum Mine, near Mokopane, Mogalakwena Municipality, Limpopo Province. **Several historical structures and burial grounds were uncovered in this assessment.**
- MURIMBIKA, E. 2012. Proposed Eskom Platreef Power Line and Substation Project within Mogalakwena Local Municipality, Waterberg District in Limpopo Province: Archaeological and Heritage Impact Assessment Report. **Low significance historical homestead remains as well as several burial grounds were uncovered in this assessment**
- ROODT, F. 2012. Phase 1 Heritage Resource Impact Assessment (Scoping & Evaluation): Maruteng Waste Water Treatment Works Mokopane, Limpopo. **No heritage resources were uncovered in this assessment.**
- HUTTEN, M. 2013. Proposed Water Supply Infrastructure for the Residential Clusters of Tshamahansi, Sekuruwe, Seema, Phafola, Maala Perekisi, Witrivier and Millennium Park in the Mogalakwena Local Municipality, Waterberg District, Limpopo Province. **A living heritage site was uncovered in this assessment.**

- HUTTEN, M. 2014. Proposed Development of a Shopping Centre on Portion 1 of the Farm Kroonstad 468 LR, west of Marken in the Mogalakwena Local Municipality, Waterberg District, Limpopo Province. **No heritage resources were uncovered in this assessment.**
- VAN DER WALT, J. 2016. Archaeological Impact Assessment for the Proposed Bulk Water Supply Pipelines from Pruissen to Piet-Se-Kop Reservoir, as Part of the Mogalakwena Water Master Plan, Mogalakwena Municipality Area, Limpopo Province. **Low significance Iron Age remains as well as some MSA stone tool scatters were uncovered in this assessment.**
- ROODT, F. 2017. Proposed filling station and shopping complex at Bakenberg. Mogalakwena Local Municipality. Waterberg District. Limpopo Province. **A stone walled settlement of the Langa Ndebele was uncovered just outside of the proposed study area in this assessment. This stonewalled site is located approximately 16km north-west of the present study area on top of Basogadi Hill (S23°53'03" E28°46'18"), just outside of Bakenberg. The site exhibits the typical stonewalled settlement pattern for the area and according to local residents, the site is ancestral to the Langa Ndebele.**
- VAN DER WALT, J. 2017. Heritage Impact Assessment (Required under Section 38(8) of the NHRA (No. 25 of 1999) Mogalakwena Municipality Water Master Plan: Phase 2A Bulk Water Supply Zone 1, Waterberg District Municipality, Limpopo Province. **Middle Stone Age stone tool scatters, Late Iron Age structural remains, historical stone walled structural remains and several burial grounds were uncovered in this assessment.**

6 FIELDWORK FINDINGS

6.1 Introduction

The fieldwork component of the study was aimed at identifying tangible remains of archaeological, historical and heritage significance.

The fieldwork was undertaken by way of intensive walkthroughs of the study area. These intensive walkthroughs were undertaken by two archaeological fieldwork teams over the course of a number of days. The two fieldwork teams were led by archaeologists Polke Birkholtz and Ilan Smeyatsky, and assisted by archaeological field assistants Derrick James and John Anderson.

The fieldwork was undertaken over the course of the number of fieldwork trips. Throughout the fieldwork, hand-held GPS devices were used to record the track logs showing the routes followed by the two archaeological fieldwork teams. Maps showing the study area boundaries and the track logs recorded by the two fieldwork teams during their walkthroughs of the study area, are indicated below.

The fieldwork resulted in the identification of a total of seventy-one (71) archaeological and heritage sites. Maps depicting the distribution of these identified heritage sites are also provided below.

The identified archaeological and heritage sites were numbered from MMEP 1 to MMEP 71. Please note that in some cases sites that were identified by the authors during recent fieldwork for other projects, also fell within the present study area. In such cases, the site numbers used in the other reports and documentation are presented with the new site numbers in this report to avoid confusion.

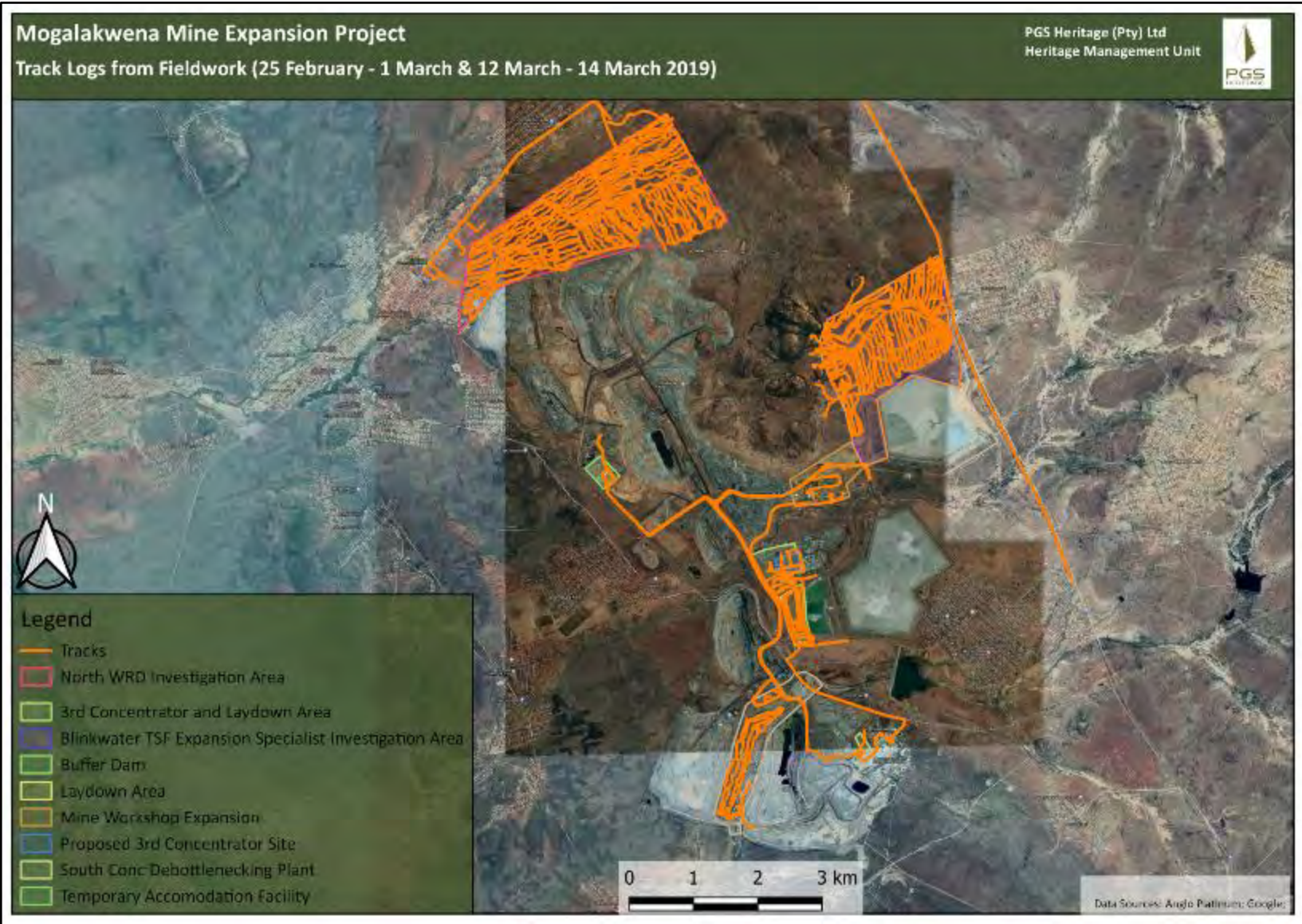


Figure 25 – This map depicts all the track logs that were recorded by the two fieldwork teams during the walkthroughs of the development footprint areas.

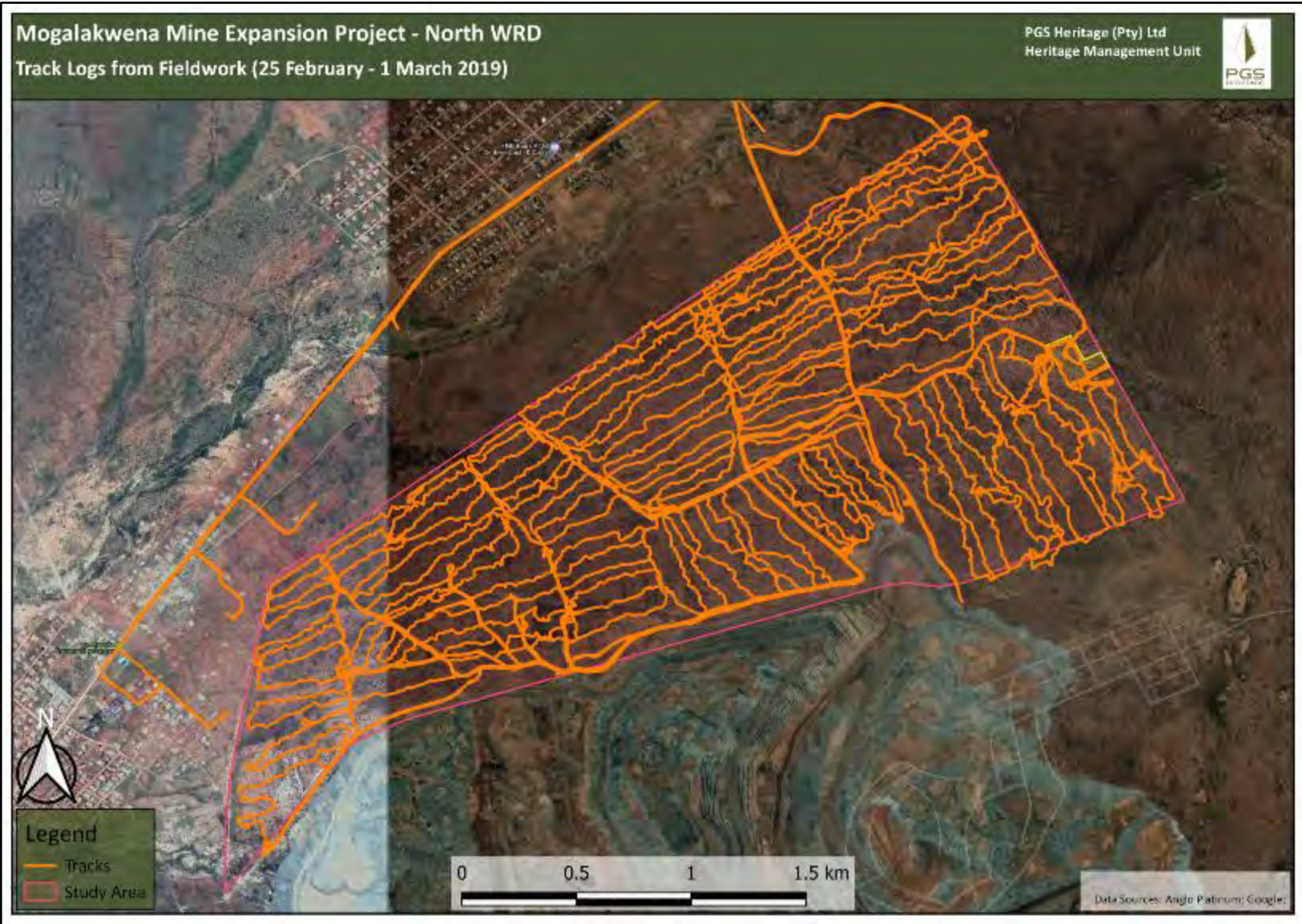


Figure 26 – This map depicts the track logs that were recorded by the two fieldwork teams during the walkthroughs North Waste Rock Dump.



Figure 27 – This map depicts the track logs that were recorded by the two fieldwork teams during the walkthroughs Blinkwater TSF.



Figure 28 – This map depicts the track logs that were recorded during the walkthroughs of development footprint areas located near the mine.

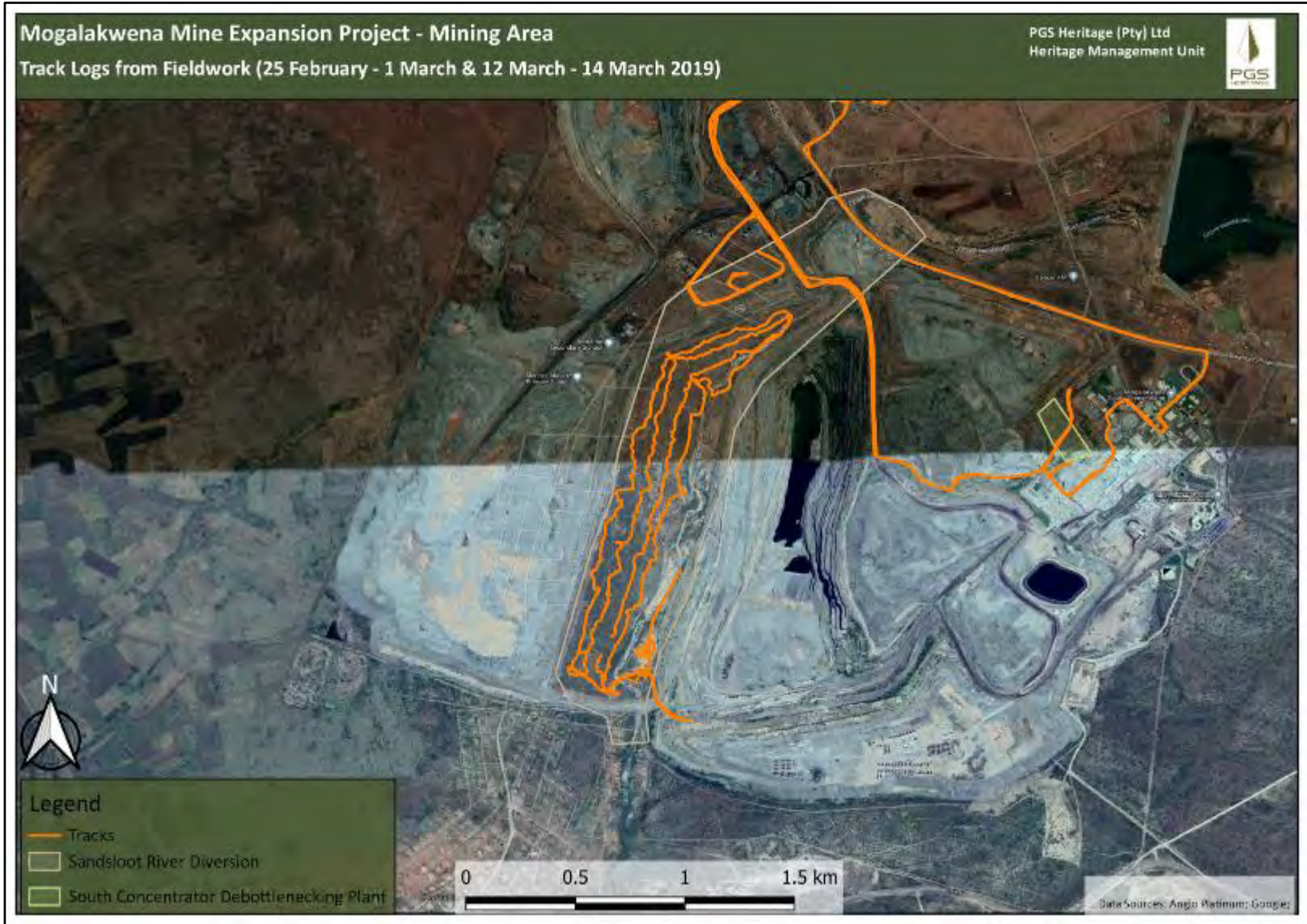


Figure 29 – This map depicts the track logs that were recorded during the walkthroughs of the Sandsloot River Diversion and South Concentrator Debottlenecking Plant.

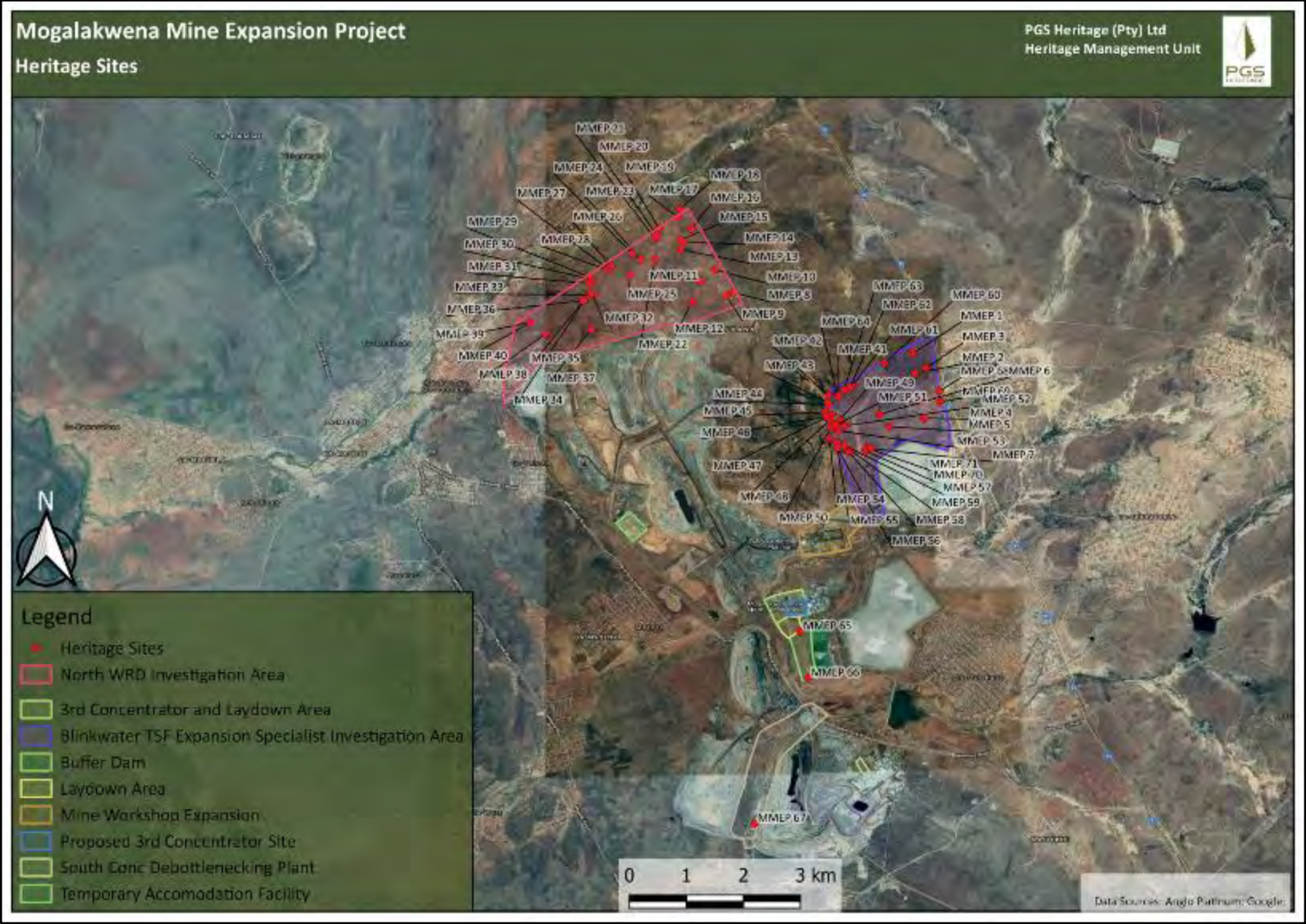


Figure 30 – Distribution map of all the archaeological and heritage sites identified during the fieldwork.

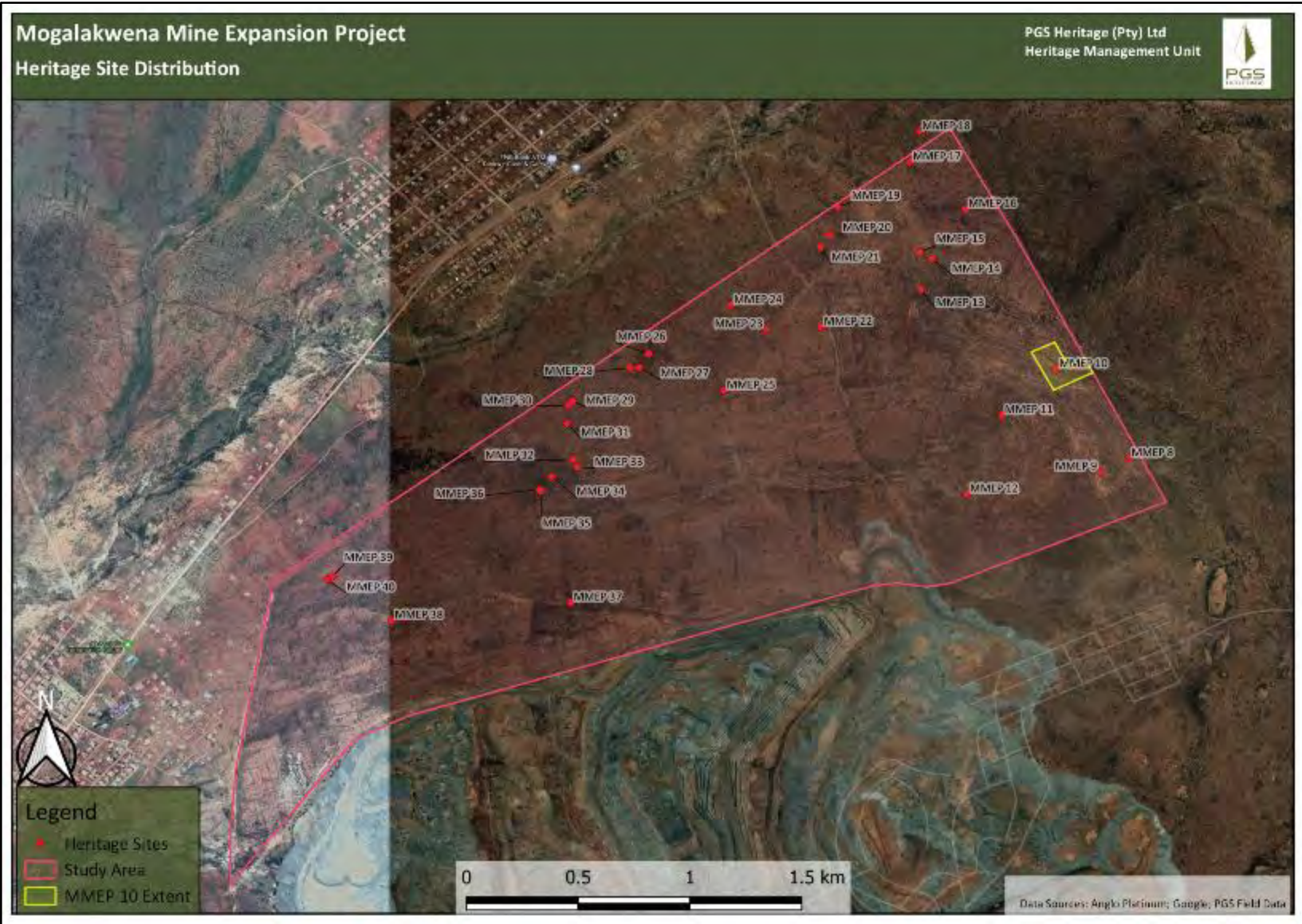


Figure 31 – Distribution map of all the archaeological and heritage sites identified within the North Waste Rock Dump during the fieldwork.

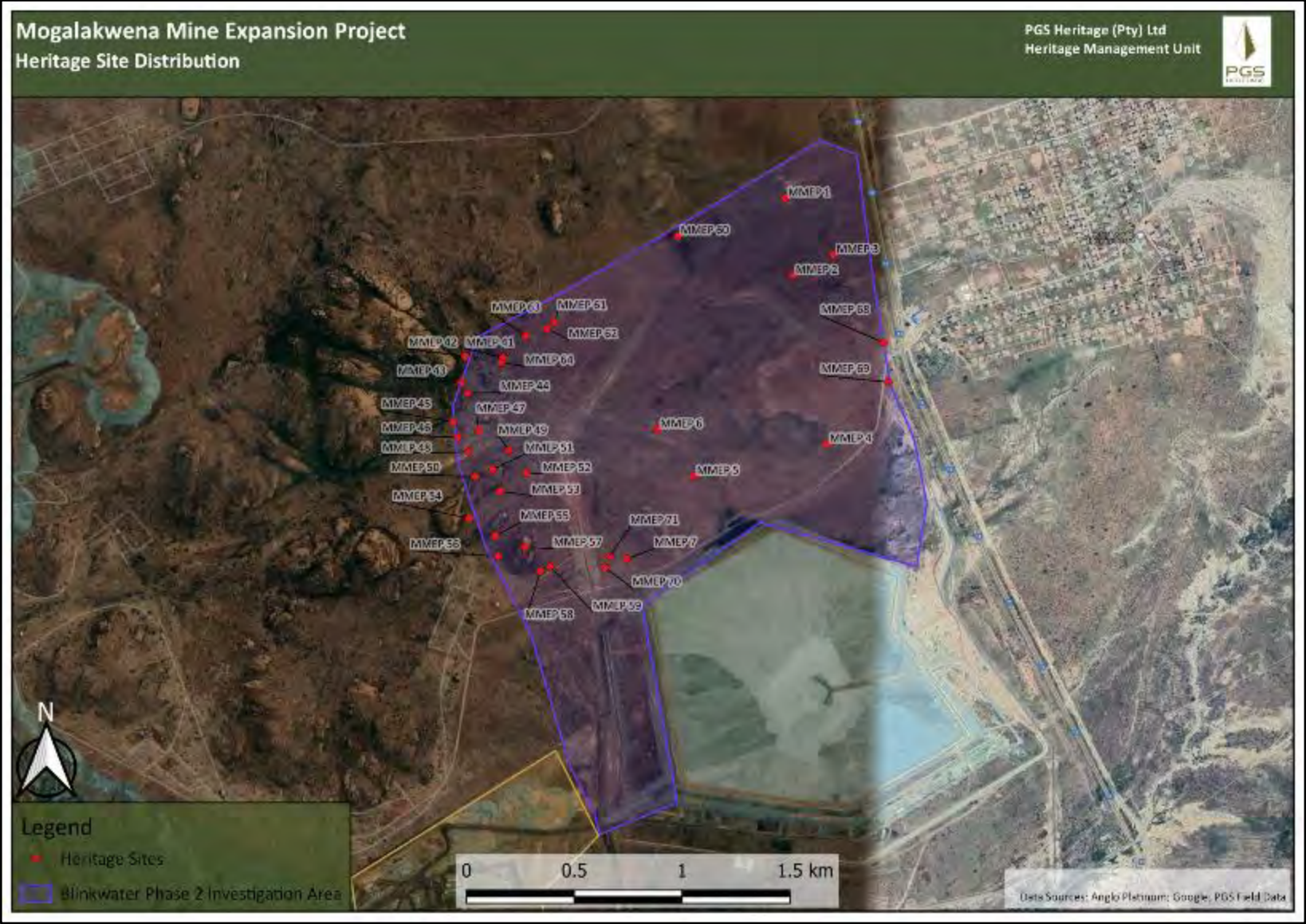


Figure 32 – Distribution map of all the archaeological and heritage sites identified within the Blinkwater TSF during the fieldwork.



Figure 33 – Distribution map of all the archaeological and heritage sites identified near the mine during the fieldwork.



Figure 34 – Distribution map of all the archaeological and heritage sites identified within the Sandsloot River Diversion and South Concentrator Debottlenecking Plant during the fieldwork.

6.2 Heritage Sites identified during the Fieldwork

6.2.1 MMEP 1

GPS Coordinates:

S 23.93744

E 28.93286

Type: MSA Stone Tool Scatter

Description:

The site comprises a low density MSA stone tool scatter located in a shallow eroded watercourse.

The highest lithic density observed at the site is 2 lithics per square meter, though the entire site is only comprised of a relatively small number of lithics (approx. n=12).

The noticeable lithic types consist of flakes and chunks made on a variation of raw materials.

Significance:

The site has a relatively low lithic density and is only comprised of a small number of lithics. The site is deemed to be of **Generally Protected C (GP. C)** or **Low Significance**.

Site Extent: 20m x 10m



Figure 35 – General view of site MMEP 1.



Figure 36 – MSA flakes of from site MMEP 15. The scale used in this photograph is in 1cm increments.

6.2.2 MMEP 2

GPS Coordinates:

S 23.94096

E 28.93320

Type: Possible Grave

Description:

A rectangular pile of packed rocks is located here, and is roughly 1m long and 0.5m wide. The rock cairn is orientated along the East-West axis. While it does not contain clear indications of a grave, such as a headstone or surface grave goods, the stone feature must be viewed as a possible grave until such time that clear information to the contrary is obtained. As a result, site MMEP 2 can be defined as a possible grave.

Significance:

Until such time that the presence of graves at this site has been confirmed or disproved, the site must be viewed as containing graves. All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 10m x 10m



Figure 37 – General view of the possible grave at site MMEP 2. Scale in 10cm increments.



Figure 38 – Closer view of the possible grave at MMEP 2. Scale is in 10cm increments.

6.2.3 MMEP 3

GPS Coordinates:

S 23.94003

E 28.93507

Type: Boulder with Stonewalling and Cupules

Description:

The site comprises a large natural boulder on which a number of cupules were observed. A small number of shallow grinding surfaces were also observed on the boulder.

Van der Ryst et al (2004:3) describes cupules as “...*small pecked and pounded circular depressions with a weathered appearance, sometimes covered by a slow-forming silica layer, which occur on horizontal as well as vertical and sloping surfaces...*”. Cupules have been connected to ritual and spiritual aspects such as rainmaking, fertility as well as transition and initiation rites and may be found near rock gongs (Van der Ryst et al., 2004).

Two small irregularly-shaped and attached stone enclosures were identified against the western end of the boulder. Furthermore, a large tree is located immediately south of the boulder.

Significance:

No other sites containin cupules were identified during extensive fieldwork undertaken by PGS Heritage in the surrounding landscape. As such, the site can be viewed as quite unique. Furthermore, the possible association of cupules to ritual aspects such as rain-making further adds to the significance of the site. The site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 30m x 30m



Figure 39 – General view across the surface of the natural boulder at site MMEP 3. Scale in 10cm increments.



Figure 40 – Closer view of some of the cupules observed on the surface of the boulder. Scale is in 1cm increments.



Figure 41 – Another close-up view of some of the cupules observed on the surface of the boulder. Scale is in 1cm increments.



Figure 42 – General view of the attached stonewalled enclosures found on the western end of the boulder. The boulder on which the cupules were observed, can be seen in the background on the left. Scale is in 10cm increments.

6.2.4 MMEP 4

GPS Coordinates:

S 23.94864

E 28.93475

Type: Historic to Recent Structures and Possible Historic Black Homestead

Description:

The site comprises two rectangular brick structures situated a few meters apart. The southern structure (16m x 6m) is clearly the remains of a dwelling and had been subdivided into a number of rooms. This structure also has a verandah on its southern end. A few meters north of this dwelling, a second rectangular structure (13m x 7m) is located. This structure is sub-divided into three components with a verandah on its eastern end, a large room in the centre and a smaller rectangular room on the western end. A door connects the verandah with the central room, whereas a door provides direct access from the outside to the smaller rectangular room on the western end of the structure with no door between the central room and this western room. The layout of this northern structure clearly conforms to the standard layout of a shop widely found in rural parts of Southern Africa. The eastern verandah provided shade for the customers, and allowed them access into the main room. The shopkeeper and staff would have accessed the shop from the outside entrance into the smaller western room where all the shop's stock was also kept. A counter would have been located in the wall separating the western room from the central larger room, through which the customers could view and buy the stock.

According to information obtained from elderly members of the Mochlotlo community, this shop was owned by a black family. Therefore, the risk exists for unmarked stillborn graves to have been buried in association with the southern dwelling structure.

Site MMEP 4 was identified on the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970. This map depicts the site as a shop, which conforms to the tangible remains identified during the fieldwork.

At present it would be very difficult to accurately date the site. It is possible for the site to be older than 60 years, but this is not presently certain.

Significance:

The two structures themselves are poorly preserved and certainly no unique or significantly old. As a result, the structures, without the possible risk of graves being present, are of **Generally Protected C (GP. C)** or **Low Significance**.

However, until such time that the presence of graves at the dwelling has been confirmed or disproved, the site must be viewed as containing graves. All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 50m x 50m



Figure 43 – General view of the dwelling structure at site MMEP 4. The scale is in 10cm increments.



Figure 44 – General view across the surface of the structure which had been interpreted as a shop. The scale is in 10cm increments.



Figure 45 – Closer view of a section of the structure which can be interpreted as a shop. On the left, the single-lined interior wall that separated the main central room on the right from the shopkeeper's area on the left can be seen. The scale is in 10cm increments.

6.2.5 MMEP 5

GPS Coordinates:

S 23.95010

E 28.92870

Type: MSA Stone Tool Scatter

Description:

The site comprises a medium density MSA stone tool scatter identified in an eroded gully that was formed through alluvial erosion associated with a non-perennial stream which drains from the north-west. The lithics are found within and on the sides of the eroded gully for a distance of 200m.

At present it is not certain whether the lithics were washed down from higher-lying Stone Age deposits, or whether they occur subterraneously and were exposed by erosion. If the latter, the associated conclusion to be made is that MSA material also occurs in subterranean contexts wider than the site's extent indicated below.

The highest lithic density observed at the site is 5 lithics per square meter, with a large number of lithics found across the site surface over a distance of approximately 200m.

The noticeable lithic types consist of cores, points, flakes and chunks, made on a variation of raw materials. One of the flakes from the site contains retouch. Hammerstones are also evident.

Significance:

The site has a medium lithic density and is comprised of a relatively large number of lithics, including one retouched flake. The site is deemed to be of **Generally Protected B (GP. B)** or **Medium Significance**.

Site Extent: 200m x 20m



Figure 46 – General view of site MMEP 5.



Figure 47 – Sample of MSA lithics observed on the surface of site MMEP 5. The scale used in this photograph is in 1cm increments. Note the hammerstone at the bottom left of the image.

6.2.6 MMEP 6

GPS Coordinates:

S 23.94798

E 28.92703

Type: MSA Stone Tool Scatter

Description:

The site comprises a medium density MSA stone tool scatter identified in an eroded gully that was formed through alluvial erosion associated with a non-perennial stream which drains from the north-west. The lithics are found within and on the sides of the eroded gully for a distance of 200m.

At present it is not certain whether the lithics were washed down from higher-lying Stone Age deposits, or whether they occur subterraneously and were exposed by erosion. If the latter, the associated conclusion to be made is that MSA material also occurs in subterranean contexts wider than the site's extent indicated below.

The highest lithic density observed at the site is 5 lithics per square meter, with a relatively large number of lithics found across the site surface.

The noticeable lithic types consist of cores, points, flakes and chunks, made on a variation of raw materials. Some of the flakes from the site contains retouch. Three undecorated potsherds were also observed on the surface of the site.

Significance:

The site has a medium lithic density and is comprised of a relatively large number of lithics, including some flakes with retouch. The site is deemed to be of **Generally Protected B (GP. B)** or **Medium Significance**.

Site Extent: 50m x 50m



Figure 48 – General view of a section of site MMEP 6. The lithics were primarily observed along the sides of the donga. Scale in 10cm increments. The Wellington Dome can be seen in the background on the left.



Figure 49 – Sample of MSA lithics as well as two undecorated potsherds from site MMEP 6. The scale used in this photograph is in 1cm increments.

6.2.7 MMEP 7

GPS Coordinates:

S 23.95389

E 28.92564

Type: Possible Burial Ground

Description:

The site comprises what appears to be the tangible remains of a burial ground. The key tangible elements of the site comprise a low rectangular wall, a single rectangular excavated hole in the centre of the rectangular wall as well as what appears to be fragments of a pebble-covered concrete slab as typically found on grave dressings. Low soil heaps are also located all around the excavated hole. The low rectangular wall may be lines of stones that were packed along the base of a fence enclosing the burial ground. Stones were often packed along the base of fences to restrict burrowing animals and warthogs from digging under the fence. The presence of a fence is supported by the identification of at least one cement-lined hole for what appears to have been one of the fence poles of the fence.

The rectangular excavated hole enclosed by what appears to have been a fence and associated with grave dressing remains, all indicate that a burial ground must have been located here. Furthermore, the tangible remains of the site point to the fact that at least one grave was relocated from the site.

The authors are aware that a grave relocation project was implemented by Mogalakwena Mine during the late 2000s. It is possible for this site to be the remaining elements of a burial ground relocated as part of that project. This said, and without documentary evidence to the contrary, it is not certain whether any more graves are buried here.

Significance:

Until such time that the presence of graves has been confirmed or disproved, the site must be viewed as containing graves. All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 50m x 50m



Figure 50 – General view of MMEP 7. The central excavated hole surrounded by low soil heaps can be seen. Scale in 10cm increments.



Figure 51 – The rectangular excavated hole can be seen. Scale is in 10cm increments. This excavated hole suggests that a grave was exhumed from the site at a presently unknown time.

6.2.8 MMEP 8

GPS Coordinates:

S 23.92697

E 28.90186

Type: MSA Stone Tool Scatter

Description:

The site comprises a low density MSA stone tool scatter located in a shallow eroded watercourse. The lithics appear to be associated with a gravel bed that was exposed by erosion.

The highest lithic density observed at the site is 2 lithics per square meter, though the entire site is only comprised of a relatively small number of lithics.

The noticeable lithic types consist of flakes, chunks and a core, made on a variation of quartzite and mudstone.

Significance:

The site has a relatively low lithic density and is only comprised of a small number of lithics. The site is deemed to be of **Generally Protected C (GP. C)** or **Low Significance**.

Site Extent: 40m x 20m



Figure 52 – General view of site MMEP 8.



Figure 53 – Sample of MSA lithics from site MMEP 8. The scale used in this photograph is in 1cm increments.

6.2.9 MMEP 9

GPS Coordinates:

S 23.92756

E 28.90062

Type: MSA Stone Tool Scatter

Description:

The site comprises a medium density MSA stone tool scatter identified in an eroded watercourse. The lithics are derived from a gravel bed that was exposed by erosion. This gravel bed was exposed at a depth of roughly 0.5m.

The highest lithic density observed at the site is 5 lithics per square meter, with a large number of lithics found across the site surface.

The noticeable lithic types consist of cores, points, flakes and chunks, made on a variation of quartzite and mudstone. Three hammerstones were also identified on the surface of the site.

With lithics at the site only found in exposed circumstances caused by erosion, it can be surmised that MSA material also occurs in subterranean contexts wider than the site's extent indicated below.

Significance:

The site has a medium lithic density and is comprised of a relatively large number of lithics, including retouched flakes and points. The site is deemed to be of **Generally Protected B (GP. B)** or **Medium Significance**.

Site Extent: 170m x 50m



Figure 54 – General view of site MMEP 9. The lithics were observed all along the sides of this eroded watercourse for a distance of approximately 170m. The lithics appear to be derived from a gravel bed approximately 0.5m underground. The scale used in this photograph is in 10cm increments.



Figure 55 – Sample of MSA lithics in the form of flakes and points observed on the surface of the site. Variable raw materials were used in the manufacture of the lithics from the site. The scale used in this photograph is in 1cm increments.

6.2.10 MMEP 10

GPS Coordinates:

S 23.92231	S 23.92156
E 28.89757	E 28.89937

S 23.92327	S 23.92406
E 28.90034	E 28.89853

Type: Burial Ground

Description:

An extensive burial ground comprising hundreds of graves is located here. This burial ground is unique comparatively speaking to the other burial grounds identified within the study area. This uniqueness is due to a number of reasons, the first of which is the massive extent of the burial ground, comprising hundreds of graves. The second is that the cemetery does not constitute a continuous distribution of graves, but is rather comprised of a number of clusters or concentrations of graves set apart from one another with no surface indications for graves buried in-between these clusters. The third reason is that the largest number of graves from the cemetery appear to have been relocated from other grave sites.

A brief description of the different clusters or concentrations of graves will follow below. In the north-western component of the site, a cluster of roughly 200 to 300 graves is located. This cluster of graves has the more familiar appearance of a burial ground and comprises a continuous layout of graves that flows chronologically from one end of the concentration to the other. The grave dressings here are also not all alike, with graves containing granite dressings with granite headstones interposed by stone-packed and stone-lined graves observed here. The graves from this cluster of graves appear to date from the period between the late 1990s up until the 2010s.

A short distance to the south, an extensive cluster of graves is located. This cluster expands across the south-western component of the overall site, and is comprised of a large number of graves, the dressings of which are almost all exactly alike. These dressings comprise rectangular cement dressings with small inscribed granite headstones on their western ends. The dates indicated on these graves do not follow a general chronological pattern. It is evident that the graves from this cluster were all exhumed from their original burial positions and reburied here at an unknown time. Similar clusters of graves which also appear to have been relocated, are located near the central-northern end of the overall site as well as in its far south-eastern corner.

At one stage, a fence with main access gate at the cemetery's southern end, enclosed the entire site. This fence and gate had been removed. A building located near the original main entrance

gate on the southern end of the site and which may have been the cemetery offices or a bathroom for family members visiting the graves of loved ones, is completely vandalised with its roof missing.

Significance:

All graves have high levels of emotional, religious and in some cases historical significance. It is also important to understand that the identified graves could have significant heritage value to the relevant families. The site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 50m x 50m



Figure 56 – General view of a section of the burial ground at site MMEP 10. This image depicts a section of the north-western cluster from the cemetery. Note the varying appearance of the grave dressings found within this cluster. Scale in 10cm increments.



Figure 57 – Closer view of some of the headstones from the north-western cluster of graves at site MMEP 10.



Figure 58 – General view of a section of the south-western cluster of graves from site MMEP 10. Apart from a small number of graves containing different grave dressings, by far the largest majority of the graves from this cluster have identical dressings. This suggests that these graves were relocated from elsewhere.



Figure 59 – A closer view of a section of graves from the south-western cluster. The high number of identical dressings can again be seen in this photograph. Scale is in 10cm increments.

6.2.11 MMEP 11

GPS Coordinates:

S 23.92507

E 28.89628

Type: Historic Black Homestead

Description:

The site comprises one circular stone structure associated with a rectangular structure. The circular structure has a diameter of 4m and comprises the foundation remains of a hut. The rectangular structure (15m x 12m) has thick walls and appears to have been a livestock enclosure.

Two raised areas which, although no cultural material could be observed on their surfaces, may have been middens which had been capped by soil. The only cultural material observed on the surface of the site is a small number of metal fragments.

From the tangible remains of the site it seems highly likely for it to have been occupied by black people. Past experience has shown that in some cases unmarked stillborn babies were buried in close proximity to such black homesteads. These stillborn babies were frequently buried along the sides, or underneath, the parents' dwelling. As the site is not occupied anymore, no direct information with regards to the presence (or not) of such graves is currently available.

Site MMEP 11 was identified approximately 40m south of a hut depicted on the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970.

At present it would be very difficult to accurately date the site. It is possible for the site to be older than 60 years, but this is not presently certain.

Significance:

Until such time that the presence of graves at this site has been confirmed or disproved, the site must be viewed as containing graves. All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 50m x 50m



Figure 60 – General view of the circular stone structure from site MMEP 11. These circular structures represent the foundation remains of huts. While the thatch and mud-brick superstructure had completely disappeared over time, the stone-built foundation walls remain preserved. The scale is in 10cm increments.



Figure 61 – Section of walling from the rectangular livestock enclosure. The north-western corner of this rectangular structure can be seen on the right, with the western wall visible in the background. The scale is in 10cm increments.

6.2.12 MMEP 12

GPS Coordinates:

S 23.92854

E 28.89476

Type: Historic Black Homestead

Description:

The site comprises one square-shaped stone structure (10m x 10m) with a semi-circular structure (10m x 5m) attached to its western end. The walls of the structures comprise double rows of stones.

Although the site appears to be located within a drainage area, the attached cluster of structures may have been a livestock enclosure from the historic to recent period. No cultural material could be observed on the surface of the site.

Although no clear evidence for any dwellings could be found, it seems possible for a black homestead to have been located here. Past experience has shown that in some cases unmarked stillborn babies were buried in close proximity to such black homesteads. These stillborn babies were frequently buried along the sides, or underneath, the parents' dwelling. As the site is not occupied anymore, no direct information with regards to the presence (or not) of such graves is currently available.

Neither the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970 nor the Second Edition of the same topographical sheet that was surveyed in 1983 depicts any homesteads or structures at this site locality. Black homesteads are shown in the wider surroundings on these maps, but the closest of these to the present site is located approximately 520m to the north-west.

Significance:

Until such time that the presence of graves at this site has been confirmed or disproved, the site must be viewed as containing graves. All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 50m x 50m



Figure 62 – General view of the south-western corner of the rectangular stone structure from site MMEP 12. Scale is in 10cm increments.



Figure 63 – The crescent-shaped structure that was attached to the rectangular structure depicted in the previous image. The scale is in 10cm increments.

6.2.13 MMEP 13

GPS Coordinates:

S 23.91954

E 28.89274

Type: Burial Ground

Description:

A rectangular to oval shaped stone-lined feature was identified here. It is evident that this stone-lined feature is a grave. No formal headstone or surface grave goods were found to be associated with the grave.

A few meters from the grave, two buried lower-grindstones were also identified.

No evidence for recent visits to the site by family members could be seen.

Significance:

All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 10m x 10m



Figure 64 – General view of the grave at site MMEP 13.



Figure 65 - View of the two lower grindstones identified in proximity to the grave.

6.2.14 MMEP 14

GPS Coordinates:

S 23.91819

E 28.89321

Type: Historic Black Homestead

Description:

The site comprises one rectangular stone structure associated with a circular stone structure. The two structures are 3m x 3m and 2m x 2m in extent and each is comprised of only a single row of stones which would have been the foundation structures of the dwellings that once stood here. No cultural material could be observed on the surface of the site.

From the tangible remains of the site it seems highly likely for it to have been occupied by black people. Past experience has shown that in some cases unmarked stillborn babies were buried in close proximity to such black homesteads. These stillborn babies were frequently buried along the sides, or underneath, the parents' dwelling. As the site is not occupied anymore, no direct information with regards to the presence (or not) of such graves is currently available.

Neither the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970 nor the Second Edition of the same topographical sheet that was surveyed in 1983 depicts any homesteads or structures at this site locality. Black homesteads are shown in the wider surroundings on these maps, but the closest of these to the present site is located approximately 520m to the north-west.

At present it would be very difficult to accurately date the site. It is possible for the site to be older than 60 years, but this is not presently certain.

Significance:

Until such time that the presence of graves at this site has been confirmed or disproved, the site must be viewed as containing graves. All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 20m x 10m



Figure 66 – General view of the rectangular stone structure from site MMEP 14. These rectangular structures represent the foundation remains of rectangular homesteads. The scale is in 10cm increments.



Figure 67 – View of the circular stone structure from site MMEP 14. These circular structures comprise the foundation remains of rondavels. The presence of such rondavels at a site frequently indicates that the site is older than homesteads consisting of only more modern rectangular structures. The scale is in 10cm increments.

6.2.15 MMEP 15

GPS Coordinates:

S 23.91790

E 28.89269

Type: MSA Stone Tool Scatter

Description:

The site comprises a low density MSA stone tool scatter and is located on relatively level flood plains, in between non-perennial river channels. It is situated amongst highly deflated, alluvial surface deposits in a secondary context, meaning the artefacts were deposited there from a stratigraphic deposit elsewhere via alluvial processes.

The noticeable lithic types consist of flakes, chunks and a core, made on a variation of quartzite and mudstone. The material was found in a secondary depositional context, meaning that it had been washed out from a stratigraphic deposit elsewhere. It is worth noting that although it possesses a low artefact density, the site is spread out over a relatively large area.

Significance:

Although the site does have a large extent, it contains a relatively low density of cultural material. The site is deemed to be of **Generally Protected C (GP. C)** or **Low Significance**.

Site Extent: 50m x 50m



Figure 68 – General view of site MMEP 15.



Figure 69 – MSA flakes of mudstone and quartzite from site MMEP 15. The scale used in this photograph is in 1cm and 5cm increments.

6.2.16 MMEP 16

GPS Coordinates:

S 23.91601

E 28.89469

Type: Historic Black Homestead

Description:

The site comprises one rectangular stone structure. The structure is 5m x 5m in extent and is comprised of only a single row of stones which would have been the foundation structure of the dwelling that once stood here. A few pieces of broken imported ceramics could be observed on the surface of the site.

From the tangible remains of the site it seems highly likely for it to have been occupied by black people. Past experience has shown that in some cases unmarked stillborn babies were buried in close proximity to such black homesteads. These stillborn babies were frequently buried along the sides, or underneath, the parents' dwelling. As the site is not occupied anymore, no direct information with regards to the presence (or not) of such graves is currently available.

Neither the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970 nor the Second Edition of the same topographical sheet that was surveyed in 1983 depicts any homesteads or structures at this site locality. Black homesteads are shown in the wider surroundings on these maps, but the closest of these to the present site is located approximately 420m to the north-west.

At present it would be very difficult to accurately date the site. It is possible for the site to be older than 60 years, but this is not presently certain.

Significance:

Until such time that the presence of graves at this site has been confirmed or disproved, the site must be viewed as containing graves. All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 10m x 10m



Figure 70 – General view of the rectangular stone structure from site MMEP 16. Scale is in 10cm increments.



Figure 71 – View of the imported ceramics from site MMEP 16. Scale is in 1cm and 5cm increments.

6.2.17 MMEP 17

GPS Coordinates:

S 23.91395

E 28.89224

Type: Burial Ground

Description:

A burial ground is located here and comprises three graves. All the graves dressings are orientated along the east-west axis. The graves have stone-lined dressings constructed from large quartzite and shale rocks with only illegible metal markers present.

Unfortunately, due to the poor state of the head markers, they are too illegible to properly ascertain the identities of the deceased. Additionally, the burial ground is well cleared of vegetation, thus it is possible that the graves have been visited recently.

Significance:

All graves have high levels of emotional, religious and in some cases historical significance. It is also important to understand that the identified graves could have significant heritage value to the relevant families. The site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 20m x 20m



Figure 72 – General view of the burial ground at site MMEP 17 showing the stone-lined graves. Scale is in 10cm increments.



Figure 73 – A close-up view of one of the metal markers. Although these markers were painted with the names of the deceased, these inscriptions are illegible. As a result, the identities of the deceased are currently unknown.

6.2.18 MMEP 18

GPS Coordinates:

S 23.91261

E 28.89266

Type: Burial Ground

Description:

A burial ground is located here and comprises four graves. All of the graves are orientated in different directions and it appears that they have been buried in order to surround an anthill. Three of the graves have stone lined dressings constructed from large quartzite and shale rocks with only metal markers present, of which only one is legible. The fourth grave has a granite headstone with a granite-lined dressing of which the surface had been covered with small white pebbles. The name of the deceased of this grave with a granite dressing, is indicated as MADIMETJA MOKHOPHO MABE.

Unfortunately, due to the poor state of some of the metal markers, many of them are too illegible to properly ascertain the identities of all of the deceased. The name of the deceased could however be read from one of these metal markers as RAISIBE MABE, which suggests that at least two of the graves from the cemetery can be associated with the Mabe family. The dates of burial could not be identified from any of the metal markers. Additionally, there is no sign that the graves have been visited recently.

These graves were identified by following a freshly bulldozed track that lead to a large cleared area, seemingly for the purposes of the erection of a construction camp. The bulldozer/grader only missed the graves by a matter of centimetres.

Significance:

All graves have high levels of emotional, religious and in some cases historical significance. It is also important to understand that the identified graves could have significant heritage value to the relevant families. The site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 20m x 20m



Figure 74 – General view of a section of the burial ground at site MMEP 18 showing one of the stone-lined graves and part of the granite dressed grave. Scale is in 10cm increments.



Figure 75 – A close-up view of one of the metal markers. As can be seen from this marker, the name of the deceased is indicated as RAISIBE MABE.



Figure 76 - View of the second stone-lined grave. The disturbance to the left of the grave is the road which had been bulldozed/graded. Scale is in 10cm increments.



Figure 77 - View of the third stone-lined grave. Scale is in 10cm increments.

6.2.19 MMEP 19

GPS Coordinates:

S 23.91592

E 28.88907

Type: Possible Historic Black Homestead

Description:

The site comprises two lower grindstones. The grindstones were identified in close proximity to the location of the depiction of a "hut" on the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970.

Based on the information that is presently available, it is possible the area in direct proximity around the site could have been occupied by black people. Past experience has shown that in some cases unmarked stillborn babies were buried in close proximity to such black homesteads. These stillborn babies were frequently buried along the sides, or underneath, the parents' dwelling. This seems to be especially true for older sites. As this site is not occupied anymore, no direct information with regards to the presence (or not) of stillborn graves is currently available.

Unfortunately, it is difficult to ascertain the exact location of the homestead as no prominent construction materials or other surface materials, besides for the lower-grindstones, were identified.

At present it would be very difficult to accurately date the site. It is possible for the site to be older than 60 years, but this is not presently certain.

Significance:

Until such time that the presence of graves at this site has been confirmed or disproved, the site must be viewed as containing graves. All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 10m x 10m



Figure 78 – General view of one of the lower grinding stones at MMEP 19. Scale is in 10cm increments.



Figure 79 – General view of the other lower grinder at MMEP 19. The scale is in 10cm increments.

6.2.20 MMEP 20

GPS Coordinates:

S 23.91715

E 28.88871

Type: Historic / Recent Stonewalling

Description:

The site comprises sections of poorly preserved stonewalling. The stonewalling was built using historic/recent techniques as opposed traditional techniques more often associated with older historic as well as Late Iron Age stonewalled sites, namely a double row of larger stone boulders with the space in-between the larger stones filled with 'rubble' made up of smaller stones. Rather, the building technique for this stonewalling was simply to construct a single row of large rocks.

No other cultural material was identified on the surface of the site.

Neither the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970 nor the Second Edition of the same topographical sheet that was surveyed in 1983 depicts any homesteads or structures at this site locality. Black homesteads are shown in the wider surroundings on these maps, but the closest of these to the present site is located approximately 420m to the north-west.

At present it would be very difficult to accurately date the site. It is possible for the site to be older than 60 years, but this is not presently certain.

Significance:

Although the site may be reasonably old, it is poorly preserved with only small sections of the walling still preserved. The site is therefore of **Low Significance** and is rated as **Generally Protected C (GP.C)**.

Site Extent: 50m in length.



Figure 80 – General view of the site showing a section of stonewalling. Scale is in 10cm increments.



Figure 81 – View of the opposite direction in which the stonewalling is running. Scale is in 10cm increments.

6.2.21 MMEP 21

GPS Coordinates:

S 23.91768

E 28.88832

Type: Burial Ground

Description:

A burial ground is located here and comprises two graves. Both graves have stone-lined dressings constructed from large quartzite rocks without any form of headstones present, thus the identities of the deceased are unfortunately unknown.

Only one of the graves is clearly visible while the other grave is partially hidden within a bush next to the visible grave. No evidence could be observed that the graves have been visited recently.

Significance:

All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 10m x 10m



Figure 82 – General view of one of the stone-lined graves at site MMEP 21.

6.2.22 MMEP 22

GPS Coordinates:

S 23.92120

E 28.88834

Type: Possible Grave

Description:

A rectangular pile of packed rocks is located here. Rocks packed together in this fashion generally represent the surface dressing of a grave. As a result, site MMEP 22 can be defined as a possible grave.

Modern broken glass fragments were identified in close proximity to the possible grave thus indicating that it could have been visited recently.

Significance:

Until such time that the presence of graves at this site has been confirmed or disproved, the site must be viewed as containing graves. All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 10m x 10m



Figure 83 – General view of the possible grave at site MMEP 22. Scale in 10cm increments.



Figure 84 – Alternate view of the possible grave at MMEP 22. Scale in 10cm increments.

6.2.23 MMEP 23

GPS Coordinates:

S 23.92130

E 28.88593

Type: Historic Black Homestead

Description:

A very unique circular structure was identified here. It has a diameter of 5m and is enclosed of a single row. However, the entire surface of this circular structure is also covered in stone. One interpretation for the feature may be that it represents the tangible remains of a circular rondavel of which the stone-packed walls had collapsed inwards.

From the tangible remains of the site it seems highly likely for it to have been occupied by black people. Past experience has shown that in some cases unmarked stillborn babies were buried in close proximity to such black homesteads. These stillborn babies were frequently buried along the sides, or underneath, the parents' dwelling. As the site is not occupied anymore, no direct information with regards to the presence (or not) of such graves is currently available.

Neither the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970 nor the Second Edition of the same topographical sheet that was surveyed in 1983 depicts any homesteads or structures at this site locality. Black homesteads are shown in the wider surroundings on these maps, but the closest of these to the present site is located approximately 170m to the north-west.

At present it would be very difficult to accurately date the site. It is possible for the site to be older than 60 years, but this is not presently certain.

Significance:

Until such time that the presence of graves at this site has been confirmed or disproved, the site must be viewed as containing graves. All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 10m x 10m



Figure 85 – General view of the rectangular stone structure from site MMEP 23. Scale is in 10cm increments.

6.2.24 MMEP 24

GPS Coordinates:

S 23.92024

E 28.88438

Type: Grave

Description:

A rectangular pile of packed rocks is located here. Rocks packed together in this fashion generally represent the surface dressing of a grave. As a result, site MMEP 24 can be defined as a possible grave. The grave was identified in close proximity to the location of the depiction of a “hut” on the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970.

Significance:

All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 10m x 10m



Figure 86 – General view of the grave at MMEP 24. Scale in 10cm increments.

6.2.25 MMEP 25

GPS Coordinates:

S 23.92399

E 28.88407

Type: Historic / Recent Concrete Foundations

Description:

The site comprises sections of poorly preserved concrete foundations. The construction materials and building technique is consistent with modern building methods. No cultural material could be identified on the surface of the site.

Neither the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970 nor the Second Edition of the same topographical sheet that was surveyed in 1983 depict any homesteads or structures at this site locality. Black homesteads are shown in the wider surroundings on these maps, but the closest of these to the present site is located approximately 380m to the north-west.

At present it would be very difficult to accurately date the site or to provide an accurate interpretation for it. It is possible for the site to be older than 60 years, but this is not presently certain.

Significance:

Although the site may be reasonably old, it is poorly preserved with only small sections of the walling still preserved. The site is therefore of **Low Significance** and is rated as **Generally Protected C (GP.C)**.

Site Extent: 50m in length.



Figure 87 – General view of the site showing a section of the concrete foundations. Scale is in 10cm increments.

6.2.26 MMEP 26

GPS Coordinates:

S 23.92237

E 28.88077

Type: Possible Historic Black Homestead

Description:

The site comprises sparse surface remains of construction materials and is located in close proximity to the location of the depiction of a “hut” on the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970.

Based on the information that is presently available, it is possible the area in direct proximity around the few rocks and cement pieces that constitute this site could have been occupied by black people. Past experience has shown that in some cases unmarked stillborn babies were buried in close proximity to black homesteads. These stillborn babies were frequently buried along the sides, or underneath, the parents’ dwelling. This seems to be especially true for older sites. As this site is not occupied anymore, no direct information with regards to the presence (or not) of stillborn graves is currently available.

Unfortunately, it is difficult to ascertain the exact location of the homestead. At present it would also be very difficult to accurately date the site. It is possible for the site to be older than 60 years, but this is not presently certain.

Significance:

Until such time that the presence of graves at this site has been confirmed or disproved, the site must be viewed as containing graves. All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 5m x 5m



Figure 88 – General view of the surface of site MMEP 26. Scale is in 10cm increments.

6.2.27 MMEP 27

GPS Coordinates:

S 23.92296

E 28.88036

Type: Burial Ground

Description:

A burial ground is located here and comprises three to four graves. Two of the graves have stone lined dressings constructed from large quartzite rocks without any form of headstones present. The other two graves possess granite dressings with granite headstones. The names of the deceased of these two graves are indicated on these headstones as Alfred Masekane Mahlahlani and Ramasela Mehlotse Mahlahlane. The inscription on the headstone of Mr. Alfred Masekane Mahlahlane indicates that he was buried in 1952.

The burial ground was found to be cleared of vegetation, thereby suggesting that the graves have recently been visited by the associated family.

The site is located in close proximity to the location of the depiction of a “hut” on the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970. It seems likely therefore this burial ground to have been associated with the homestead depicted on this map.

Significance:

All graves have high levels of emotional, religious and in some cases historical significance. It is also important to understand that the identified graves could have significant heritage value to the relevant families. The site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 20m x 20m



Figure 89 – General view of the burial ground at site MMEP 27 showing the graves with granite dressings in the foreground with the stone-lined graves visible in the background on the right.



Figure 90 – A close-up view of one of the two stone-lined graves. Scale is in 10cm increments.

6.2.28 MMEP 28

GPS Coordinates:

S 23.92237

E 28.88077

Type: Possible Historic Black Homestead

Description:

The site comprises a possible historic black homestead. While the tangible remains of the site are only comprised of a small number of pottery fragments, the site is also located in close proximity to the location of the depiction of a “hut” on the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970. It seems likely therefore for a historic black homestead to have been located here.

Based on the information that is presently available, it is possible the area in direct proximity around the few pottery pieces that constitute this site could have been occupied by black people. Past experience has shown that in some cases unmarked stillborn babies were buried in close proximity to black homesteads. These stillborn babies were frequently buried along the sides, or underneath, the parents’ dwelling. This seems to be especially true for older sites. As this site is not occupied anymore, no direct information with regards to the presence (or not) of stillborn graves is currently available.

Unfortunately, it is difficult to ascertain the exact location of the homestead as no prominent foundation remains or other surface materials, besides for the few pottery pieces, were identified. At present it would be very difficult to accurately date the site. It is possible for the site to be older than 60 years, but this is not presently certain.

Significance:

Until such time that the presence of graves at this site has been confirmed or disproved, the site must be viewed as containing graves. All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 20m x 20m



Figure 91 – General view of the possible homestead location at site MMEP 28. Scale is in 10cm increments.



Figure 92 - View of the two isolated pottery pieces found at site MMEP 28. Scale is in 1cm and 5cm increments.

6.2.29 MMEP 29

GPS Coordinates:

S 23.92445

E 28.87743

Type: Possible Historic Black Homestead

Description:

The site comprises two lower grindstones. The grindstones were identified in close proximity to the location of the depiction of a “hut” on the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970.

Based on the information that is presently available, it is possible the area in direct proximity to where the two lower grinders were found, may have been the black homestead shown on the topographic map sheet. Past experience has shown that in some cases unmarked stillborn babies were buried in close proximity to black homesteads. These stillborn babies were frequently buried along the sides, or underneath, the parents’ dwelling. This seems to be especially true for older sites. As this site is not occupied anymore, no direct information with regards to the presence (or not) of stillborn graves is currently available.

Unfortunately, it is difficult to ascertain the exact location of the homestead as no prominent foundation remains or other surface materials, besides for the few pottery pieces, were identified. At present it would be very difficult to accurately date the site. It is possible for the site to be older than 60 years, but this is not presently certain.

Significance:

Until such time that the presence of graves at this site has been confirmed or disproved, the site must be viewed as containing graves. All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 10m x 10m



Figure 93 – General view of one of the lower grindstone at MMEP 29. Scale is in 10cm increments.

6.2.30 MMEP 30

GPS Coordinates:

S 23.92465

E 28.87723

Type: Possible Grave

Description:

A rectangular pile of packed rocks is located here. Rocks packed together in this fashion generally represent the surface dressing of a grave. As a result, site MMEP 30 can be defined as a possible grave. Additionally, the site is located in close proximity to the location of the depiction of a “hut” on the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970. As a result, it seems likely for the possible grave to have been associated with a historic black homestead.

Broken pieces of imported ceramics were identified in close proximity to the possible grave. These fragments may have been associated with the homestead indicated on the map.

Significance:

Until such time that the presence of graves at this site has been confirmed or disproved, the site must be viewed as containing graves. All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 5m x 5m



Figure 94 – General view of the possible grave at MMEP 30. Scale in 10cm increments.

6.2.31 MMEP 31

GPS Coordinates:

S 23.92542

E 28.87719

Type: Burial Ground

Description:

A burial ground is located here and comprises three graves. All of the graves have cement-lined dressings with upright stones as headstones. Inscriptions were observed in the cement forming the sides of the dressings. The site is located in close proximity to the location of the depiction of a “hut” on the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970. As a result, it seems likely for the graves to have been associated with a historic homestead.

While the inscriptions on the grave dressings are not all equally clear, it would appear that all three graves date to 1981. One of the graves also bears the name JOHANNES.

The burial ground is well cleared of vegetation, suggesting that the graves have recently been visited by family members.

Significance:

All graves have high levels of emotional, religious and in some cases historical significance. It is also important to understand that the identified graves could have significant heritage value to the relevant families. The site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 10m x 10m



Figure 95 – General view of the burial ground at site MMEP 31 showing the three cement-lined graves. The scale is in 10cm increments.



Figure 96 – Closer view of one of the grave dressings showing its inscription made into the wet cement.

6.2.32 MMEP 32

GPS Coordinates:

S 23.92701

E 28.87746

Type: Grindstone

Description:

The site comprises one lower grindstone. The grindstone was identified in close proximity to the location of site MMEP 33. At present it would be very difficult to accurately date the site. It is possible for the site to be older than 60 years, but this is not presently certain.

Significance:

As the site only comprises a single lower grinding stone, the site is of **Generally Protected C (GP.C)** or **Low Significance**.

Site Extent: 5m x 5m



Figure 97 – General view of the lower grindstone at MMEP 32. Scale is in 10cm increments.

6.2.33 MMEP 33

GPS Coordinates:

S 23.92734

E 28.87763

Type: Possible Historic Black Homestead

Description:

The site comprises the remains of a concrete built structure. The site is located in close proximity to the location of site MMEP 32.

Based on the information that is presently available, it is possible the area in direct proximity around the few rocks and cement pieces that constitute this site, could have been the site for a historic black homestead. Past experience has shown that in some cases unmarked stillborn babies were buried in close proximity to Black homesteads. These stillborn babies were frequently buried along the sides, or underneath, the parents' dwelling. This seems to be especially true for older sites. As this site is not occupied anymore, no direct information with regards to the presence (or not) of stillborn graves is currently available.

Neither the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970 nor the Second Edition of the same topographical sheet that was surveyed in 1983 depicts any homesteads or structures at this site locality. Black homesteads are shown in the wider surroundings on these maps, but the closest of these to the present site is located approximately 230m to the north-east.

At present it would be very difficult to accurately date the site. It is possible for the site to be older than 60 years, but this is not presently certain.

Significance:

Until such time that the presence of graves at this site has been confirmed or disproved, the site must be viewed as containing graves. All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 5m x 5m



Figure 98 – General view of the structural remains from site MMEP 33. Scale is in 10cm increments.

6.2.34 MMEP 34

GPS Coordinates:

S 23.92776

E 28.87652

Type: Burial Ground

Description:

A fenced burial ground is located here and comprises three to four graves. It is clear from the state of the grave dressings that they have either been desecrated or relocated as what seems to be the rubble of at least two concrete dressings lies strewn over the site with one illegible headstone. In close proximity to the rubble, a shallow depression was observed in the ground which is either a partially exposed grave or a partially back-filled excavation pit from relocating a grave.

Without supportive documentary or other information indicating that the graves from the site had all been successfully relocated, it must be assumed that some or all of the human remains from the cemetery may still be buried here. As a result, the site must still be considered as having a High/Medium significance until such time that the necessary mitigation has taken place.

Significance:

Until such time that the presence of graves at this site has been confirmed or disproved, the site must be viewed as containing graves. All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 20m x 20m



Figure 99 – General view of the burial ground at site MMEP 34. Please note of the overgrown nature of the site indicating that the burial has not been visited for an extended period of time.



Figure 100 – Another general view of the site. The rubble from some of the concrete grave dressings can be seen in the back. Scale is in 10cm increments.

6.2.35 MMEP 35 & MMEP 36

GPS Coordinates:

MMEP 35 S 23.92838
 E 28.87605

MMEP 36 S 23.92835
 E 28.87597

Type: Historic Black Homestead & Burial ground

Description:

The site comprises the remains of one circular stone structure, stonewalling, a lower-grindstone and a burial ground. The circular structure is 5m in diameter and is comprised of only a single row of stones which would have been the foundation walling of the dwelling that once stood here.

The stonewalling is located approximately 10m to the north-west of the remains of the structure and extends for a length of 15m. It is also comprised of a single row of stones.

Approximately 10m to the east of the remains of the stone structure, several metal grave markers that had been pulled out of the ground lay next to a 5m 5m square stone lined enclosure that is positioned under a large tree. There are no other surface features to indicate the presence of graves but it is highly likely that there are still two to three graves that are contained within the enclosure. However, it is also possible for at least some of the graves from this site to have been relocated.

The lower-grindstone is located approximately 40m to the south of the stone structure, stonewalling and the burial ground. No other cultural material could be observed on the surface of the site.

Based on the information that is presently available, it seems highly likely for the site to have been occupied by black people. Past experience has shown that in some cases unmarked stillborn babies were buried in close proximity to black homesteads. These stillborn babies were frequently buried along the sides, or underneath, the parents' dwelling. This seems to be especially true for older sites. As this site is not occupied anymore, no direct information with regards to the presence (or not) of stillborn graves is currently available.

Neither the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970 nor the Second Edition of the same topographical sheet that was surveyed in 1983 depicts any homesteads or structures at this site locality. Black homesteads are shown in the wider

surroundings on these maps, but the closest of these to the present site is located approximately 360m to the west.

At present it would be very difficult to accurately date the site. It is possible for the site to be older than 60 years, but this is not presently certain.

Significance:

Until such time that the presence of graves at this site has been confirmed or disproved, the site must be viewed as containing graves. All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

The other surface features such as the stonewalling and the grindstone, would be considered to be of **Generally Protected C (GP. C)** or **Low Significance**.

Site Extent: 30m x 20m



Figure 101 – General view of the circular stone structure from site MMEP 35. Scale is in 10cm increments.



Figure 102 – View of the stonewalling located in close proximity to the structure. This walling was likely built and used as a boundary wall. Scale is in 10cm increments.



Figure 103 – View of the lower grindstone within the boundaries of site MMEP 35. Scale is in 10cm increments.



Figure 104 – View of the rectangular stone enclosure that is most likely a burial ground at site MMEP 36. The discarded metal grave markers referred to in the text can be seen on the right. Scale is in 10cm increments.



Figure 105 – View of the metal grave markers that had pulled out of the ground at some point. Scale is in 10cm increments.

6.2.36 MMEP 37

GPS Coordinates:

S 23.93330

E 28.87734

Type: Historic / Recent Stonewalling

Description:

The site comprises sections of poorly preserved stonewalling, possibly forming a man-made channel. The stonewalling was built using historic/recent techniques as opposed traditional techniques more often associated with older historic as well as Late Iron Age stonewalled sites, namely a double row of larger stone boulders with the space in-between the larger stones filled with 'rubble' made up of smaller stones. Rather, the building technique for this stonewalling was simply to construct rows of rocks.

No other cultural material was identified on the surface of the site.

Neither the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970 nor the Second Edition of the same topographical sheet that was surveyed in 1983 depicts any homesteads or structures at this site locality. Black homesteads are shown in the wider surroundings on these maps, but the closest of these to the present site is located approximately 600m to the north-west.

At present it would be very difficult to accurately date the site. It is possible for the site to be older than 60 years, but this is not presently certain.

Significance: The site does not appear to have been a historic homestead, or have been directly associated with such a homestead. As indicated in the text, the walling appears to have been a man-made water channel. The site is therefore of **Low Significance** and is rated as **Generally Protected C (GP.C)**.

Site Extent: 40m in length.



Figure 106 – General view of the stonewalling at site MMEP 37. Scale is in 10cm increments.

6.2.37 MMEP 38

GPS Coordinates:

S 23.93408

E 28.86948

Type: Rubbing Post

Description:

The site comprises natural boulder that has been rubbed smooth on certain portions. While it is likely that this is a natural occurrence due to animals such as warthogs using it as a rubbing-post, broken glass and two Middle Stone Age flakes were found in the direct proximity to the boulder. As a result, it is possible for the boulder to have had a human association as well.

Significance: At present it is not certain whether the boulder has any heritage value. This will only be assessed during the mitigation. For the moment, the site is given a **Moderate Significance** and is rated as **Generally Protected B (GP.B)**.

Site Extent: 5m x 5m.



Figure 107 – General view of the rubbing stone at site MMEP 38. Scale is in 10cm increments.

6.2.38 MMEP 39

GPS Coordinates:

S 23.93214

E 28.86689

Type: Historic Black Homestead

Description:

The site comprises three circular stone structures located in close proximity of each other. Each structure is approximately 5m in diameter and is comprised of only a single row of stones which would have been the foundation walling of the dwellings that once stood here. It would appear that the actual walling of the structures had collapsed inwards.

Based on the information that is presently available, it seems highly likely for the site to have been occupied by black people. Past experience has shown that in some cases unmarked stillborn babies were buried in close proximity to such black homesteads. These stillborn babies were frequently buried along the sides, or underneath, the parents' dwelling. This seems to be especially true for older sites. As this site is not occupied anymore, no direct information with regards to the presence (or not) of stillborn graves is currently available.

Neither the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970 nor the Second Edition of the same sheet that was surveyed in 1983 depicts any homesteads or structures at this site locality. Black homesteads are shown in the wider surroundings on these maps, but the closest of these to the present site is located approximately 500m to the east.

At present it would be very difficult to accurately date the site. It is possible for the site to be older than 60 years, but this is not presently certain.

Significance:

Until such time that the presence of graves at this site has been confirmed or disproved, the site must be viewed as containing graves. All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 5m x 5m each



Figure 108 – General view of one of the circular stone structures from site MMEP 39. Scale is in 10cm increments.



Figure 109 – View of one of the other two circular stone structures from site MMEP 39. Scale is in 10cm increments.

6.2.39 MMEP 40

GPS Coordinates:

S 23.93229

E 28.86665

Type: Possible Grave

Description:

A rectangular feature of packed stones was identified in close proximity to site MMEP 39 and is probably associated with it. It seems possible for this stone-packed feature to be a grave dressing. As a result, site MMEP 40 can be defined as a possible grave. No evidence could be found for the site to have been visited recently by family members.

Significance:

Until such time that the presence of graves at this site has been confirmed or disproved, the site must be viewed as containing graves. All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 5m x 5m



Figure 110 – General view of the possible grave at site MMEP 40. Scale in 10cm increments.

6.2.40 MMEP 41 (UTRP 28)

GPS Coordinates:

S 23.94469

E 28.92001

Type: Historic Black Homestead / LIA Stonewalling

Description:

The site comprises a few small rudimentary stonewalled enclosures built against the foot of a hill. It is presently not certain whether this site dates to the historic period or the Late Iron Age. If indeed the latter, it would have been at a time of uncertainty as the site only comprises small sections of stonewalling rather than well-built settlements.

The site was evidently built and occupied by black people. Past experience has shown that in some cases unmarked stillborn babies were buried in close proximity to such black homesteads. These stillborn babies were frequently buried along the sides, or underneath, the parents' dwelling. This seems to be especially true for older sites. As this site is not occupied anymore, no direct information with regards to the presence (or not) of stillborn graves is currently available.

Neither the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970 nor the Second Edition of the same topographical sheet that was surveyed in 1983, depict any homesteads or structures at this site locality.

At present it would be very difficult to accurately date the site. It is however certain that the site is older than 60 years, and quite likely older than 100 years as well.

Significance:

Until such time that the presence of graves at this site has been confirmed or disproved, the site must be viewed as containing graves. All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A)** or **High/Medium Significance**. Additionally, even without the possible presence of graves, the site is relatively unique and quite old as well. As a result, without the presence of graves, the site is deemed to be of **Medium Significance** and is rated as **Generally Protected B (GP.B)**.

Site Extent: 50m x 30m



Figure 111 – General view of one of the rudimentary and small stonewalled enclosures built against a boulder. This view is from the west.



Figure 112 – Another view of the same rudimentary enclosure as seen from the other side. This photograph was taken from the east.

6.2.41 MMEP 42 (UTRP 27)

GPS Coordinates:

S 23.94465

E 28.91827

Type: Historic Livestock Enclosure

Description:

MMEP 42 is located against the south-eastern foot of a prominent hill vernacularly known as Bakane, which on older topographic maps are also named Blinkkop. The site is located in a kloof that runs between this mountain and the hill to its north-east.

The site comprises the remains of an extensive stonewalled livestock enclosure. The stonewalling was built using traditional techniques more often associated with older historic as well as Late Iron Age stonewalled sites, namely constructing a double row of larger stone boulders with the space in-between the larger stones filled with 'rubble' made up of smaller stones. This building technique provides the site with an appearance not dissimilar to a Late Iron Age stonewalled site, however the enclosure is certainly not circular and comprises long straight sections of walling.

Neither the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970 nor the Second Edition of the same topographical sheet that was surveyed in 1983, depict the site.

At present it would be very difficult to accurately date the site. It is however certainly older than 60 years and quite possibly older than 100 years as well.

Significance:

The site may be reasonably old and is also well preserved. It is therefore of **Medium Significance** and is rated as **Generally Protected B (GP.B)**.

Site Extent: 50m x 50m



Figure 113 – General view of a section of stonewalling from site MMEP 42. Scale in 10cm increments.



Figure 114 – Another section of walling from the site. Scale in 10cm increments.

6.2.42 MMEP 43 (UTRP 26)

GPS Coordinates:

S 23.94584

E 28.91809

Type: Historic Farmstead

Description:

MMEP 43 is located against the south-eastern foot of Bakane Hill, at the base of a kloof that separates this hill from Mammogashwa Hill. The site is located 60m north-west of MMEP 44, and is more than likely directly associated with it.

MMEP 43 comprises the remains of a very old historic farmstead. The most visible component of the farmstead is the remains of a rectangular farmhouse comprising a rectangular core (12m x 7m) with a verandah on its eastern and western ends. The walls of the structure are only partially preserved, but are very thick and built almost exclusively from stone, albeit sun-baked clay bricks were also used in the construction. The interior of the dwelling is covered in dense vegetation, including trees, but was evidently subdivided into a number of rooms. Incidentally, the presence of trees within the dwelling indicates that the building was abandoned quite some time ago. The roof of the structure is missing, but may either have been of thatch or corrugated iron.

Two oval-shaped stonepacked structures are located approximately 15m north of the farmhouse. These structures have the appearance of graves. Additionally, the circular foundation structure of a rondavel was identified between the graves and the farmhouse. The structure has a diameter of 3m. Rondavels are typical outbuildings to historic farmsteads in South Africa and would in all likelihood have been used either as a milk room or meat room. Its position so close to the dwelling would have facilitated such an extension to the food preparation activities of the farmstead. It can be expected that the rondavel was built at roughly the same time as the farm dwelling.

Cultural material in the form of imported ceramics as well as glass and metal items were observed on the surface of the site. Approximately 15m west by north-west of the farmhouse a low density of such cultural material, primarily imported ceramics, was identified.

It seems more than likely for the site to have been the first farmstead established on the farm Blinkwater, and as such was in all probability built during the late nineteenth century. An archival file located in the National Archives in Pretoria contains a very interesting description of the farmhouse from 1937. This description of the farmhouse is made in a letter compiled by the Agricultural Supervisor of Potgietersrust on 17 March 1937 and addressed to the Native

Commissioner of Potgietersrust. It contains a description of all the buildings located on the farm at the time. An accompanying diagram indicates that the farmhouse at MMEP 43, with an associated smaller structure (rondavel?) was situated on its own near the north-western boundary of the farm. The letter describes the farmhouse at MMEP 43 as follows: *“One dwelling house, marked A on sketch, consisting of 4 rooms and a verandah built of rough stone masoned with mud, earth floor, flat iron roof. The roof over one room and the verandah has been blown off, it appears to be lying intact on the ground though twisted. The house is in a bad state of repair, 18 panes glass, 3 windows and one door missing”* (National Archives, NTS, 3595, 893/308).

Neither the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970 nor the Second Edition of the same topographical sheet that was surveyed in 1983, depict any homesteads or structures at this site locality. This can be explained by the description of the farmhouse from 1937 which indicates that the building was already in a bad state of repair then.

At present it would be very difficult to accurately date the site. It is however certainly older than 60 years and more than likely older than 100 years as well.

Significance:

Although in a relatively poor state of preservation, the farmhouse appears to have been one of the original historic farmsteads from within the study area. Furthermore, the site contains what appears to be at least two graves. Without the presence of graves, the site has enough historic value to support a reasonably high significance. Coupled with the presence of graves, which always have high levels of emotional, religious and in some cases historical significance, the site is of **Medium to High Significance** or **Generally Protected A (GP. A)**.

Site Extent: 50m x 50m



Figure 115 – General view of the front façade of the historic farmstead as seen from the east.
Scale in 10cm increments.



Figure 116 – Section of reasonably well-preserved walling on the western side of the farmhouse. Scale in 10cm increments.



Figure 117 – This photograph of the front door shows the width of the walls as well as the use of both stone and clay bricks in the construction of the structure. Scale in 10cm increments.



Figure 118 – View across the remains of the verandah on the western side of the farmhouse.



Figure 119 – Circular foundation of what appears to have been a rondavel. Scale in 10cm increments.



Figure 120 – One of two stone-lined structures which seem to be graves. Scale in 10cm increments.

6.2.43 MMEP 44 (UTRP 25)

GPS Coordinates:

S 23.94631

E 28.91839

Type: Historic Black Homestead

Description:

The site is located against the south-eastern foot of Bakane Hill, at the base of a kloof that separates this hill from Mammogashwa Hill. It is 60m south-east of the historic farmstead at site MMEP 43, and can be directly associated with it.

MMEP 44 comprises the poorly preserved remains of what appears to have been a historic homestead. All that remains of the homestead is a rectangular stone structure.

The site was evidently built and occupied by black people. Past experience has shown that in some cases unmarked stillborn babies were buried in close proximity to such black homesteads. These stillborn babies were frequently buried along the sides, or underneath, the parents' dwelling. This seems to be especially true for older sites. As this site is not occupied anymore, no direct information with regards to the presence (or not) of stillborn graves is currently available.

Neither the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970 nor the Second Edition of the same topographical sheet that was surveyed in 1983, depict any homesteads or structures at this site locality.

At present it would be very difficult to accurately date the site. It is however certain that the site is older than 60 years, and quite likely older than 100 years as well.

Significance:

Until such time that the presence of graves at this site has been confirmed or disproved, the site must be viewed as containing graves. All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 30m x 30m



Figure 121 – General view of the site showing a section of the structures identified here. Scale in 10cm increments. A section of Bakane Hill can be seen on the right.



Figure 122 – Another view of the site. Scale is in 10cm increments. The rectangular shape of the stonewall remains can be seen in this image.

6.2.44 MMEP 45

GPS Coordinates:

S 23.94762

E 28.91771

Type: Historic Black Homestead

Description:

A historic black homestead was identified here. The main tangible remains of the homestead comprise a central raised rectangular structure (4m x 3m), which is attached to the remnants of a rectangular lapa wall. On the western end of the site, a second rectangular structure (6m x 4m) is located. A low terrace wall was built across the back (northern end) of the site. This terrace wall may have been built as a boundary wall or alternatively to stop water draining from the nearby prominent hill into the site. No cultural material could be observed on the surface of the site.

From the tangible remains of the site it seems highly likely for it to have been occupied by black people. Past experience has shown that in some cases unmarked stillborn babies were buried in close proximity to such black homesteads. These stillborn babies were frequently buried along the sides, or underneath, the parents' dwelling. As the site is not occupied anymore, no direct information with regards to the presence (or not) of such graves is currently available.

Site MMEP 45 appears to be indicated as a hut on the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970.

At present it would be very difficult to accurately date the site. However, the site may be older than 60 years.

Significance:

Until such time that the presence of graves at this site has been confirmed or disproved, the site must be viewed as containing graves. All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 50m x 50m



Figure 123 – General view of a section of site MMEP 45 showing the central rectangular structure in the front with a section of the low terrace wall at the back of the site visible in the background. Scale is in 10cm increments.



Figure 124 – Closer view of the doorway to the rectangular structure depicted above. The scale is in 10cm increments.

6.2.45 MMEP 46

GPS Coordinates:

S 23.94833

E 28.91794

Type: Historic Black Homestead

Description:

A historic black homestead was identified here. The main tangible remains of the homestead comprise three to four circular structures that are linked to one another with a low rectangular wall. These circular structures are all that remain of the site's dwellings and would have been the stone-built foundations for rondavels. One of these structures is roughly 4m diameter, with the other three rondavel structures 3m in diameter. The low rectangular stone wall connecting these rondavels can be interpreted as a lapa wall. No cultural material could be observed on the surface of the site.

From the tangible remains of the site it seems highly likely for it to have been occupied by black people. Past experience has shown that in some cases unmarked stillborn babies were buried in close proximity to such black homesteads. These stillborn babies were frequently buried along the sides, or underneath, the parents' dwelling. As the site is not occupied anymore, no direct information with regards to the presence (or not) of such graves is currently available.

Site MMEP 11 appears to be indicated as a hut on the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970.

At present it would be very difficult to accurately date the site. However, the fact that the dwellings from the site were all comprised of rondavels with no cultural material visible on the surface, suggest that the site is older. As a result, the site is more than likely older than 60 years.

Significance:

Until such time that the presence of graves at this site has been confirmed or disproved, the site must be viewed as containing graves. All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A) or High/Medium Significance**.

Site Extent: 50m x 50m



Figure 125 – General view of a section of site MMPE 46. The large circular structure can be seen in the middle background, whereas the low stone wall that functioned as the lapa of the homestead is located next to the scale on the left. Scale is in 10cm increments.



Figure 126 – One of the smaller circular stone structures from site MMPE 46. The circular structures are all that remains of the dwellings of the homestead. The scale is in 10cm increments.

6.2.46 MMEP 47 (UTRP 24)

GPS Coordinates:

S 23.94800

E 28.91889

Type: MSA Stone Tool Scatter

Description:

The site is located on a relatively level section of land located east of Mamogashwa Hill. It is situated in proximity to two other stone tool sites, namely MMEP 48 and MMEP 49, and the three sites can be associated with one another.

MMEP 47 comprises of a fairly dense MSA stone tool scatter. The noticeable lithics types consist of blades and debitage (flakes & chunks), made on a variation of quartz, quartzite and mudstone. The material was found in a secondary depositional context, meaning that it had been washed out from a stratigraphic deposit elsewhere. The artefacts were found amongst a deposit of small quartz pebbles.

Significance:

Although the site does not have the extent of MMEP 48, it contains a relatively high density of cultural material. The site is deemed to be of **Medium Significance** or **Generally Protected B (GP. B)**.

Site Extent: 20m x 20m

6.2.47 MMEP 48 (UTRP 22)

GPS Coordinates:

S 23.94899

E 28.91843

Type: Large MSA & LSA Site

Description:

The site is located on a relatively level section of land located east of Mamogashwa Hill. It is situated in proximity to two other stone tool sites, namely MMEP 47 and MMEP 49, and the three sites can be associated with one another.

The site comprises a high density MSA & LSA stone tool scatter. The noticeable types of MSA tools consist of blades and debitage (flakes & chunks), made on a variation of quartz, quartzite and mudstone. In terms of the LSA, a number of localities where LSA quartz tool manufacture was occurring was observed. Furthermore, a few examples of CSS flakes and cores, a raw material that is typical of the LSA industry, were also identified.

The material was found on the surface as well as in the eroded channels of what seems to be a semi-perennial stream. It is probable that the MSA artefacts are in a secondary depositional context, meaning that it had been washed out from a stratigraphic deposit elsewhere. However, it is likely that the LSA artefacts at the site are more undisturbed since it is known that LSA tool manufacture would sometimes take place near streams and rivers, especially if they produced an abundant source of raw materials.

Significance:

The site possesses a very high density of cultural material, some of which may very well still be in primary context. The site has relatively high levels of scientific significance. The site is deemed to **Medium Significance** or **Generally Protected B (GP. B)**.

Site Extent: 100m x 40m



Figure 127 – MMEP 48 as seen from an elevated position. The site position and extent are shown by the white smear visible in the valley floor. See arrow.



Figure 128 – General view across site MMEP 48 showing the erosion channels characterising its surface. A section of Mamogashwa Hill can be seen on the right.



Figure 129 – MSA flakes manufactured from mudstone. Scale in 1cm and 5cm increments.



Figure 130 – MSA quartz flakes and segments.

6.2.48 MMEP 49 (UTRP 23)

GPS Coordinates:

S 23.94891

E 28.92029

Type: MSA Stone Tool Scatter

Description:

The site is located on a relatively level section of land located east of the Mamogashwa Hill. It is situated in proximity to two other stone tool sites, namely MMEP 47 and MMEP 48, and the three sites can be associated with one another.

MMEP 49 comprises a high density MSA stone tool scatter. The noticeable lithic types consist of blades and debitage (flakes & chunks), made on a variation of quartz, quartzite and mudstone. The material was found in a secondary depositional context, meaning that it had been washed out from a stratigraphic deposit elsewhere. The artefacts were found amongst a deposit of small quartz pebbles. This site is similar to MMEP 47, although with a smaller extent.

Significance:

Although the site does not have the extent of MMEP 48, it contains a relatively high density of cultural material. The site is deemed to be of **Medium Significance** or **Generally Protected B (GP. B)**.

Site Extent: 20m x 20m



Figure 131 – General view of site MMEP 49.



Figure 132 – MSA mudstone and quartzite flakes and blades.

6.2.49 MMEP 50 (UTRP 44)

GPS Coordinates:

S 23.95012

E 28.91872

Type: Iron Age Stonewalled Site

Description:

The site comprises one large circular stone enclosure with a smaller circular stone structure in the middle. The enclosure is 30m in diameter and the enclosed structure is 5m in diameter. The outer structure is comprised of only a single row of stones.

While the inner circle was built using traditional techniques more often associated with older historic as well as Late Iron Age stonewalled sites, the enclosing wall comprises a single row of stones.

The general layout of the site comprising a circular enclosing outer wall with a smaller circular enclosure within, it typically found in the Late Iron Age.

Significance:

The site represents one of the few known examples of Late Iron Age settlement within the study area and possibly speaks to other LIA finds in the area. As such, the site is of **Generally Protected B (GP. B)** or **Medium Significance**.

Site Extent: 40m x 40m



Figure 133 – General view of the circular stone enclosure from site MMEP 50. Scale is in 10cm increments.



Figure 134 – View of the circular stone structure found in the middle of the outer enclosure. Scale is in 10cm increments.

6.2.50 MMEP 51 (UTRP 43)

GPS Coordinates:

S 23.94980

E 28.91952

Type: Historic Black Homestead

Description:

The site comprises one large circular stone enclosure with the remains of mud huts, a smaller circular stone structure and a rectangular stone structure near its centre. The enclosure is 50m in diameter and the structures are all 5m x 5m in extent. The enclosing wall is comprised of only a single row of stones.

Based on the information that is presently available, it seems highly likely for the site to have been occupied by black people. Past experience has shown that in some cases unmarked stillborn babies were buried in close proximity to such black homesteads. These stillborn babies were frequently buried along the sides, or underneath, the parents' dwelling. This seems to be especially true for older sites. As this site is not occupied anymore, no direct information with regards to the presence (or not) of stillborn graves is currently available.

Neither the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970 nor the Second Edition of the same topographical sheet that was surveyed in 1983 depicts any homesteads or structures at this site locality. Black homesteads are shown in the wider surroundings on these maps, but the closest of these to the present site is located approximately 240m to the north-west.

Significance:

Until such time that the presence of graves at this site has been confirmed or disproved, the site must be viewed as containing graves. All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 70m x 70m



Figure 135 – General view of the mud house foundations from site MMEP 51. Scale is in 10cm increments.



Figure 136 – View of the one rectangular stone structures found in the middle of the enclosure. Scale is in 1cm increments.

6.2.51 MMEP 52

GPS Coordinates:

S 23.94996

E 28.92107

Type: MSA Stone Tool Scatter

Description:

The site is located on a relatively level section of land located north-east of a group of hills collectively named Inyoga Hill. It is situated in proximity to a number of other stone tool sites, namely MMEP 47, MMEP 48 and MMEP 49. All these sites can be associated with one another.

MMEP 52 comprises a low density LSA and MSA stone tool scatter. The highest density of lithics that could be observed here is one lithic per square meters. The noticeable lithic types consist of cores, flakes and chunks, made on a variation of quartz, quartzite and mudstone. The lithics were exposed by erosion.

Significance:

The site is not extensive and has a low density of lithics. The site is deemed to be of **Low Significance** or **Generally Protected C (GP. C)**.

Site Extent: 30m x 30m



Figure 137 – General view of site MMEP 52. Scale is in 10cm increments.

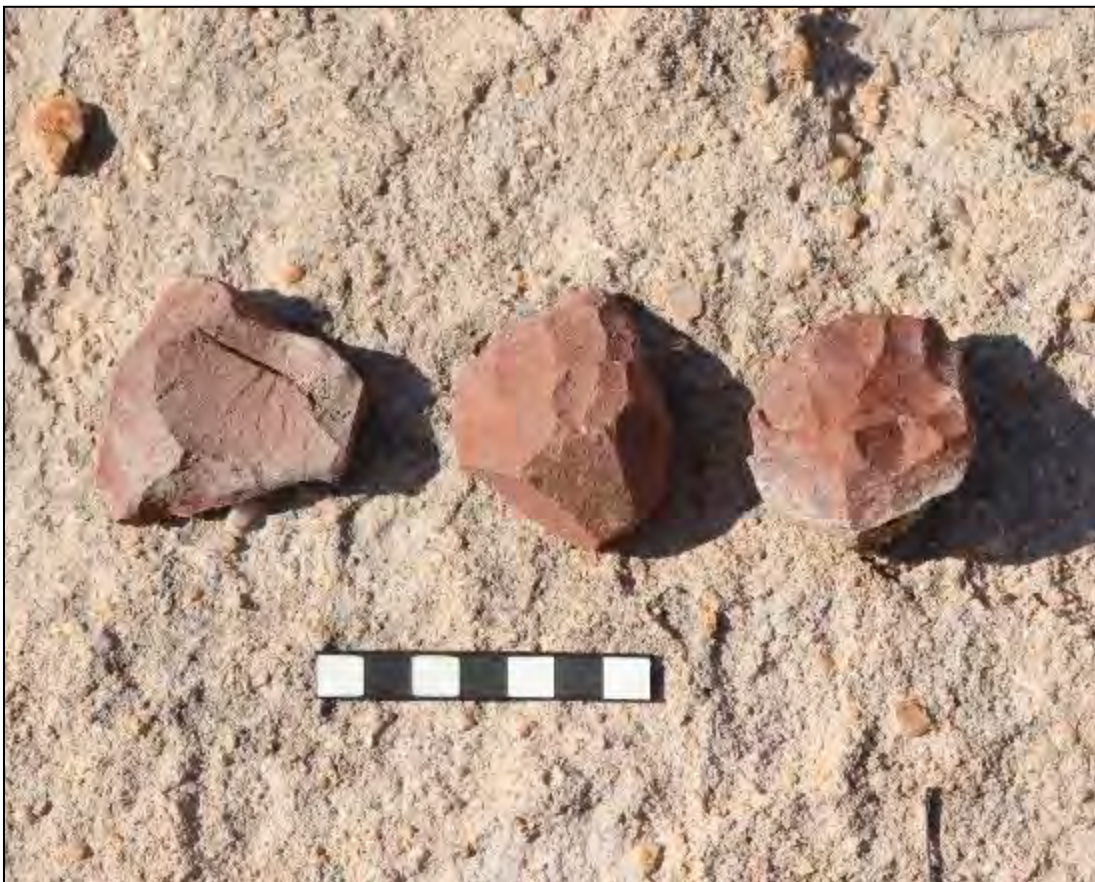


Figure 138 – Sample of lithics observed on the surface of the site. The scale is in 1cm increments.

6.2.52 MMEP 53

GPS Coordinates:

S 23.95078

E 28.91988

Type: Historic Black Homestead

Description:

The site comprises a rectangular structure associated with a crescent-shaped stone wall located a few meters to the north-east. The rectangular structure (9m x 8m) appears to have been a dwelling. The crescent-shaped was built using a double row of stones and may have been used as a kitchen shelter. This is said as a bone and metal bowl were observed at the wall.

From the tangible remains of the site it seems highly likely for it to have been occupied by black people. Past experience has shown that in some cases unmarked stillborn babies were buried in close proximity to such black homesteads. These stillborn babies were frequently buried along the sides, or underneath, the parents' dwelling. As the site is not occupied anymore, no direct information with regards to the presence (or not) of such graves is currently available.

The site is not depicted on the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970. However, a hut is depicted nearby.

At present it would be very difficult to accurately date the site. It is possible for the site to be older than 60 years, but this is not presently certain.

Significance:

Until such time that the presence of graves at this site has been confirmed or disproved, the site must be viewed as containing graves. All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 50m x 50m



Figure 139 – General view of site MMEP 53. This view is across a section of the dwelling. The crescent-shaped wall can be seen in the background on the left. The scale is in 10cm increments.



Figure 140 – The crescent-shaped wall can be seen in the foreground with a section of the dwelling structure visible in the back. The scale is in 10cm increments.

6.2.53 MMEP 54 (UTRP 50)

GPS Coordinates:

S 23.95202

E 28.91844

Type: Historic Black Homestead

Description:

The site comprises the remains of one rectangular stone structure with the remains of a mud rondavel adjacent to it. The structure is 8m x 6m in extent and is comprised of only a single row of stones. Due to the size of this structure, it may have functioned as a livestock enclosure. The mud rondavel has a diameter of 3m.

Based on the information that is presently available, it seems highly likely for the site to have been occupied by black people. Past experience has shown that in some cases unmarked stillborn babies were buried in close proximity to such black homesteads. These stillborn babies were frequently buried along the sides, or underneath, the parents' dwelling. This seems to be especially true for older sites. As this site is not occupied anymore, no direct information with regards to the presence (or not) of stillborn graves is currently available.

Neither the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970 nor the Second Edition of the same sheet that was surveyed in 1983 depicts any homesteads or structures at this site locality. Black homesteads are shown in the wider surroundings on these maps, but the closest of these to the present site is located 360m to the south-east.

At present it would be very difficult to accurately date the site. It is possible for the site to be older than 60 years, but this is not presently certain.

Significance:

Until such time that the presence of graves at this site has been confirmed or disproved, the site must be viewed as containing graves. All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 10m x 10m



Figure 141 – General view of the remains of the rectangular structure at MMEP 54. Scale is in 10cm increments.



Figure 142 – View of the foundation of the mud rondavel. Scale is in 10cm increments.

6.2.54 MMEP 55 (UTRP 52)

GPS Coordinates:

S 23.95282

E 28.91966

Type: Historic Black Homestead

Description:

The site comprises two large rectangular stone enclosures with the remains of two mud brick structures in the middle. The enclosures are 30m x 30m in extent and the structures are all 5m x 3m and 5m x 4m respectively in extent. It seems likely for the two large rectangular stone enclosures to have been boundary walls demarcating the two residential areas. This is said as these two enclosures are much too large to have been dwellings. The structures found within these outer enclosures would have been dwellings.

Based on the information that is presently available, it seems highly likely for the site to have been occupied by black people. Past experience has shown that in some cases unmarked stillborn babies were buried in close proximity to such black homesteads. These stillborn babies were frequently buried along the sides, or underneath, the parents' dwelling. This seems to be especially true for older sites. As this site is not occupied anymore, no direct information with regards to the presence (or not) of stillborn graves is currently available.

Neither the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970 nor the Second Edition of the same sheet that was surveyed in 1983 depicts any homesteads or structures at this site locality. Black homesteads are shown in the wider surroundings on these maps, but the closest of these to the present site is located approximately 220m to the south-east. At present it would be very difficult to accurately date the site. It is possible for the site to be older than 60 years, but this is not presently certain.

Significance:

Until such time that the presence of graves at this site has been confirmed or disproved, the site must be viewed as containing graves. All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A) or High/Medium Significance**.

Site Extent: 30m x 30m, 5m x 3m and 5m x 4m



Figure 143 – General view of the remains of a section of walling from one of the larger rectangular enclosing walls at MMEP 55. Scale is in 10cm increments.



Figure 144 – View of one of the foundations of the mud brick houses. Scale is in 10cm increments.

6.2.55 MMEP 56 (UTRP 53)

GPS Coordinates:

S 23.95375

E 28.91978

Type: Historic Stonewalled Livestock Enclosure

Description:

The site is located against the western foot of a prominent steep-sided hill vernacularly known as Nyoga Hill.

MMEP 56 comprises the remains of a stonewalled livestock enclosure, which is 9m x 8m in extent. The stonewalling was built using traditional techniques more often associated with older historic as well as Late Iron Age stonewalled sites, namely constructing a double row of larger boulders with the space in-between the larger stones filled with 'rubble' made up of smaller stones. This building technique provides the site with an appearance not dissimilar to a Late Iron Age stonewalled site, however the walling shows definite corners and straight lines, rather than the traditional Late Iron Age circular shape.

Neither the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970 nor the Second Edition of the same topographical sheet that was surveyed in 1983 depicts any homesteads or structures at this site locality. Black homesteads are shown in the wider surroundings on these maps, but the closest of these to the present site is located approximately 120m to the south-east.

At present it would be very difficult to accurately date the site. It is however quite certain for the walling to be older than 60 years, and almost certainly older than 100 years as well.

Significance:

While the site may be reasonably old, it is not as well preserved as other similar sites in the study area. The site is therefore of **Low Significance** and is rated as **Generally Protected C (GP.C)**.

Site Extent: 10m x 10m



Figure 145 – General view of the site showing the stonewalled enclosure in the foreground and the steep-sided hill that is vernacularly known as Inyoga Hill in the back. Scale is in 10cm increments.

6.2.56 MMEP 57 (UTRP 54)

GPS Coordinates:

S 23.95334

E 28.92099

Type: Possible Iron Age Rainmaking Site

Description:

The site is located near the top of a steep-sided hill, on the western edge of the study area. This steep-sided hill is vernacularly known as Inyoga Hill. The site comprises a very high density surface scatter of Iron Age ceramics identified on several soil plateaus that have acted as catchments for the ceramics, which most likely originated from positions higher up the hill. The site extends for a distance of about 50m all around the peak of the kopje and has a general width of 15m for the entire length. One of these soil plateaus has an unobstructed, breath-taking view of the entire landscape and Mamogashwa and Bakane Hills to the north-west.

Undecorated pottery, comprising the majority of the ceramic sample from the site, cannot be linked to a specific ceramic facies or cultural affinity. However, a number of decorated pottery sherds were also identified on the surface of the site. At least two of these decorated pottery fragments display finely incised herringbone decoration with bands of stamping. These sherds can more than likely be associated with the Eiland ceramic facies which is dated to the period AD 1000 to AD 1300. Of course the numerous undecorated ceramics observed at the site may push the utilisation of the site for rain-making purposes into the more recent timeframe. Although no decoration motifs that one could associate with the Langa Ndebele were found, the site may very well have been used for rain-making during the period of occupation and settlement of this Late Iron Age group in the immediate surroundings of the study area. In his book *The Ndebele of Langa*, the anthropologist Dr. Arthur Oswald Jackson clearly shows the significance of rain-making activities for the Langa Ndebele, and the fact that these rain-making sites were also located in hidden and secluded spots (Jackson 1983).

The presence of quite a significant number of Iron Age pottery without the associated occupation elements such as stonewalling and hut foundations, coupled with the location of the site in an area that can only be described as remote, hidden and secluded, strongly point to the use of the site for rain-making purposes.

Aukema (1989) argues that rock shelters containing clay pots, grindstones and potsherds should not necessarily just be considered as occupational debris left by Iron Age people living in these secluded areas during times of unrest or as evidence of interactions with hunter-gatherers. He explains that while those explanations may be true in certain cases, it is more likely that these remains are related to rain-making practices (Aukema 1989). Rock-shelters held special religious

significance for Iron Age people, with the the creation myths of the Tswana and Xhosa for example describing the first human beings as having emerged from holes or caverns in the ground (Hammond-Tooke 1974:320). Furthermore, the supreme deities of the Venda and the Shona communicated with the people through caves situated in Venda and in the Matopo Hills in Zimbabwe (Stayt 1931:231; Daneel 1970:23). Aukema (1989) adds that spirits also inhabited caves, mountains and groves (Aukema 1989). The Pedi and the Tswana made regular sacrifices of corn and beer to the spirits associated with these caves and shelters. These sacrifices were normally accompanied by prayers for rain and crop fertility (Hammond-Tooke 1974:323).

Of the above-mentioned, rainmaking is the one ritual in which the use of rock shelters and clay pots is mentioned in some ethnographies (Aukema 1989). Most southern African communities performed this ritual, or paid someone to have it performed on their behalf, every year at the beginning of the wet season (Schapera 1984:61). The ritual was normally performed by the chief, assisted by rain-doctors (Aukema 1989). The purpose of this ritual is to appeal to the ancestors of the chiefs, and in exceptional cases to the abovementioned spirits and deities, for sufficient rain to ensure a good crop and adequate grazing for their livestock (Aukema 1989). Clay pots and grindstones were the rain-makers' tools, the grindstone was for grinding the different medicines which were then stirred in the clay pot filled with water (Aukema 1989).

According to Huffman (2007), there are two main types of rainmaking sites, one ascribed to the societies of the Zimbabwe Pattern and the other associated with the so-called Central Cattle Pattern, the latter being more common in South Africa. He explains that sometimes the San were thought to have a special relationship with the spirits of the land and that chiefs could employ them as rainmakers (Huffman 2007). This factor could possibly explain why hunter-gatherer rock shelters were re-used over time by Iron Age people for rainmaking purposes. Huffman (2007) confirms the idea that rainmaking hills were not inhabited but still contained remains of pole-and-daga structures, grindstones, animal bones and lots of broken pottery, making it difficult to distinguish between rainmaking and residential debris (Huffman 2007).

It is important to note that during the most powerful rain-making activities and rituals associated with both the Iron Age and historic period, human body parts were used (Aukema 1989). The possible presence of human remains adds to the significance of the site.

Significance:

The site quite evidently is a prehistoric (and possibly historic) rain-making area that would have played a highly significant role in the Iron Age (and possibly Historic) communities of the arid landscape surrounding the study area. The presence of ceramics that can be associated with the Eiland ceramic facies (AD 1000 – AD 1300), means that the rain-making activities at the site could have been undertaken for a 1000 years or more. The site is very unique, of very high religious and emotional value, but also holds prodigious potential for scientific research to better understand this

historic, though often secret, cultural activity.

As the rain-making site at MMEP 57 is not unique, with a number of other rain-making sites identified at Bakane Hill, the site is deemed to be of **High Significance** and is rated as **Local Significance (LS) Grade 3A**.

Site Extent: 50m x 15m



Figure 146 – General view of the hill where site MMEP 57 was identified. The secluded location of the site at the summit of a 150m high kopje can clearly be seen.



Figure 147 – General view of some of the soil plateaus that acted as catchments for the pottery fragments. Scale is in 10cm increments.



Figure 148 – A close up view of one of the soil plateaus that acted as catchments for the pottery fragments. Note the number of pottery fragments scattered across the surface. Scale is in 10cm increments.



Figure 149 – A few examples of decorated pottery from the site. Scale is in 1cm and 5cm increments.



Figure 150 – Another example of a decorated pottery fragment from the site.

6.2.57 MMEP 58 (UTRP 55)

GPS Coordinates:

S 23.95444

E 28.92170

Type: Historic Stonewalled Livestock Enclosure

Description:

The site is located against the south-eastern foot of a prominent steep-sided hill that is vernacularly known as Inyoga Hill, and can be associated with site MMEP 59.

MMEP 58 comprises the remains of a stonewalled livestock enclosure. The stonewalling was built using traditional techniques more often associated with older historic as well as Late Iron Age stonewalled sites, namely constructing a double row of larger stone boulders with the space in-between the larger stones filled with 'rubble' made up of smaller stones. This building technique provides the site with an appearance not dissimilar to a Late Iron Age stonewalled site, however the walling shows definite corners and straight lines, rather than the traditional Late Iron Age circular shape.

The 2328DD Topographical Sheet that was surveyed in 1970 depicts multiple homesteads in close proximity to this site. This may suggest that the site can be associated with historic black homesteads.

Significance:

While the site may be reasonably old, it is not as well preserved as other similar sites in the study area. Furthermore, it is also not directly associated with any tangible remains for historic black homesteads. As a result, the site is of **Low Significance** and is rated as **Generally Protected C (GP.C)**.

Site Extent: 10m x 10m



Figure 151 – General view of the site showing the stonewalled enclosure in the foreground and the steep-sided hill in the back. Scale is in 10cm increments.

6.2.58 MMEP 59 (UTRP 56)

GPS Coordinates:

S 23.95423

E 28.92215

Type: Possible Historic Black Homestead

Description:

The site comprises a large rectangular stone enclosure, not dissimilar to the boundary walls found on other black homesteads from within the study area. No surface remains could be identified within the large stone enclosure. However, it is possible that mud brick houses may have been located here.

The stonewalling was built using traditional techniques more often associated with older historic as well as Late Iron Age stonewalled sites, namely constructing a double row of larger stone boulders with the space in-between the larger stones filled with 'rubble' made up of smaller stones.

Based on the information that is presently available, it seems highly likely for the site to have been occupied by black people. Past experience has shown that in some cases unmarked stillborn babies were buried in close proximity to such black homesteads. These stillborn babies were frequently buried along the sides, or underneath, the parents' dwelling. This seems to be especially true for older sites. As this site is not occupied anymore, no direct information with regards to the presence (or not) of stillborn graves is currently available.

The 2328DD Topographical Sheet that was surveyed in 1970 depicts multiple homesteads in close proximity to this site.

Significance:

Until such time that the presence of graves at this site has been confirmed or disproved, the site must be viewed as containing graves. All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 40m x 20m



Figure 152 – General view of the remains of the walling of the rectangular enclosure at MMEP 59. Scale is in 10cm increments.



Figure 153 – Close-up on a portion of the stone walling. Scale is in 10cm increments.

6.2.59 MMEP 60

GPS Coordinates:

S 23.93916

E 28.92795

Type: MSA Stone Tool Scatter

Description:

The site comprises a low density MSA stone tool scatter and is located on a relatively level flood plain, next to a non-perennial river channel. It is situated amongst highly deflated, alluvial surface deposits in a secondary context, meaning the artefacts were deposited there from a stratigraphic deposit elsewhere via alluvial processes. Spot finds of these tools can be found over a much larger area than the site extent.

The noticeable lithic types consist of flakes and blades, made on a variation of quartzite and mudstone. The material was found in a secondary depositional context, meaning that it had been washed out from a stratigraphic deposit elsewhere. It is worth noting that although it possesses a low artefact density, the site is spread out over a relatively large area.

Significance:

Although the site does have a large extent, it contains a relatively low density of cultural material. The site is deemed to be of **Generally Protected C (GP. C)** or **Low Significance**.

Site Extent: 20m x 20m



Figure 154 – MSA mudstone and quartzite flakes. Scale in 1cm and 5cm increments.

6.2.60 MMEP 61

GPS Coordinates:

S 23.94309

E 28.92234

Type: Historic Black Homestead

Description:

The site comprises the remains of a circular stone structure. The site is located in close proximity to the location of the depiction of a “hut” on the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970.

Based on the information that is presently available, it is possible that this site could have been occupied by black people. Past experience has shown that in some cases unmarked stillborn babies were buried in close proximity to black homesteads. These stillborn babies were frequently buried along the sides, or underneath, the parents’ dwelling. This seems to be especially true for older sites. As this site is not occupied anymore, no direct information with regards to the presence (or not) of stillborn graves is currently available.

At present it would be very difficult to accurately date the site. It is possible for the site to be older than 60 years, but this is not presently certain.

Significance:

Until such time that the presence of graves at this site has been confirmed or disproved, the site must be viewed as containing graves. All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 20m x 20m



Figure 155 – General view of the circular stone structure from site MMEP 61. Scale is in 10cm increments.

6.2.61 MMEP 62

GPS Coordinates:

S 23.94338

E 28.92200

Type: Historic Black Homestead

Description:

The site comprises the remains of a rectangular stone structure. The site is located in close proximity to the location of the depiction of a “hut” on the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970.

Based on the information that is presently available, it is possible that this site could have been occupied by black people. Past experience has shown that in some cases unmarked stillborn babies were buried in close proximity to black homesteads. These stillborn babies were frequently buried along the sides, or underneath, the parents’ dwelling. This seems to be especially true for older sites. As this site is not occupied anymore, no direct information with regards to the presence (or not) of stillborn graves is currently available.

At present it would be very difficult to accurately date the site. It is possible for the site to be older than 60 years, but this is not presently certain.

Significance:

Until such time that the presence of graves at this site has been confirmed or disproved, the site must be viewed as containing graves. All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 20m x 20m

6.2.62 MMEP 63

GPS Coordinates:

S 23.94369

E 28.92104

Type: Historic Stonewalled Livestock Pen

Description:

The site comprises the remains of a stonewalled livestock pen. The stonewalling was built using traditional techniques more often associated with older historic as well as Late Iron Age stonewalled sites, namely constructing a double row of larger stone boulders with the space in-between the larger stones filled with 'rubble' made up of smaller stones.

The 2328DD Topographical Sheet that was surveyed in 1970 depicts multiple homesteads in close proximity to this site.

It is also interesting to note that a piece broken ceramics was found in close proximity to the stone walling.

At present it would be very difficult to accurately date the site. It is however quite certain for the walling to be older than 60 years and almost certainly older than 100 years as well.

Significance:

While the site may be reasonably old, it is not as well preserved as other similar sites in the study area. The site is therefore of **Low Significance** and is rated as **Generally Protected C (GP.C)**.

Site Extent: 10m x 10m



Figure 156 – General view of the stonewalled pen at site MMEP 63. Scale is in 10cm increments.



Figure 157 – Alternate view of the stonewalled pen at site MMEP 63. Scale is in 10cm increments.

6.2.63 MMEP 64

GPS Coordinates:

S 23.94492

E 28.91991

Type: Historic Black Homestead

Description:

The site comprises the remains of stone walling which functioned as a boundary associated with two circular hut foundations. Both hut foundation structures have a diameter of approximately 5m. The site is located in close proximity to the location of the depiction of a “hut” on the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970.

Based on the information that is presently available, it is likely for the site to have been occupied by black people. Past experience has shown that in some cases unmarked stillborn babies were buried in close proximity to black homesteads. These stillborn babies were frequently buried along the sides, or underneath, the parents' dwelling. This seems to be especially true for older sites. As this site is not occupied anymore, no direct information with regards to the presence (or not) of stillborn graves is currently available.

At present it would be very difficult to accurately date the site. It is possible for the site to be older than 60 years, but this is not presently certain.

Significance:

Until such time that the presence of graves at this site has been confirmed or disproved, the site must be viewed as containing graves. All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 20m x 20m



Figure 158 – General view of site MMEP 64 with the remains of the boundary wall in the foreground and the hut foundations in the background. The scale used in this photograph is in 10cm increments.



Figure 159 – View of one of the circular hut foundations from site MMEP 64. Scale is in 10cm increments.

6.2.64 MMEP 65

GPS Coordinates:

S 23.98544

E 28.91342

Type: Possible Historic / Recent Stonewalling

Description:

The site comprises sections of poorly preserved stonewalling. The stonewalling was built using more recent techniques as opposed traditional techniques more often associated with older historic as well as Late Iron Age stonewalled sites, namely constructing a single row of large rocks versus a double row of larger stone boulders with the space in-between the larger stones filled with 'rubble' made up of smaller stones.

No cultural material could be identified on the surface of the site.

Neither the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970 nor the Second Edition of the same topographical sheet that was surveyed in 1983 depicts any homesteads or structures at this site locality.

Significance:

Although the site may be reasonably old, it is poorly preserved with only small sections of the walling still preserved. The site is therefore of **Low Significance** and is rated as **Generally Protected C (GP.C)**.

Site Extent: 15m in length.



Figure 160 – General view of the possible stonewalling at site MMEP 65. Scale is in 10cm increments.

6.2.65 MMEP 66

GPS Coordinates:

S 23.99350

E 28.91477

Type: Burial Ground

Description:

A burial ground is located here and comprises approximately forty to fifty graves. All the grave dressings are orientated along the east-west axis. The majority of the graves have granite headstones and dressings. This said, a fair number of the graves have stone-packed and stone-lined grave dressings with some concrete dressings also visible. Large sections of the burial ground are heavily overgrown, making it difficult to obtain an accurate count of the graves.

Almost none of the stone-lined or stone-packed graves have any form of legible inscriptions and thus are unidentifiable. However, according to the graves with granite headstones, the oldest graves date from 1948 and 1956 whereas the most recent grave was buried in 2018. This indicates that the burial ground is still in use and is being visited.

The burial ground is adequately fenced.

Significance:

All graves have high levels of emotional, religious and in some cases historical significance. It is also important to understand that the identified graves could have significant heritage value to the relevant families. The site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 50m x 50m



Figure 161 – General view of the burial ground at site MMEP 66. Note the fence that encloses the cemetery.



Figure 162 – Examples of graves from the burial ground with granite dressings. Scale is in 10cm increments.



Figure 163 – General view of the youngest grave in the burial ground. This grave dates to 2018. Scale is in 10cm increments.



Figure 164 – A close-up of one of the oldest grave in the burial ground. Scale is in 10cm increments.

6.2.66 MMEP 67

GPS Coordinates:

S 24.01857

E 28.90554

Type: MSA Stone Tool Scatter

Description:

The site comprises a low density MSA stone tool scatter and is located on a relatively level flood plain next to a non-perennial river channel. It is situated amongst highly deflated, alluvial surface deposits in a secondary context, meaning the artefacts were deposited there from a stratigraphic deposit elsewhere via alluvial processes. Spot finds of these tools can be found over a larger area than the site extent.

The noticeable lithic types consist of flakes, blades and cores, made on a variation of quartzite and mudstone. The material was found in a secondary depositional context, meaning that it had been washed out from a stratigraphic deposit elsewhere. It is worth noting that although it possesses a low artefact density, the site is spread out over a relatively large area.

In addition to the stone tools, several pieces of undecorated ceramics were also identified at the site. It is impossible to ascertain where these pieces originated from as the area around the site has been so severely modified by prior mining activities.

Significance:

Although the site does have a large extent, it contains a relatively low density of cultural material. The site is deemed to be of **Generally Protected C (GP. C)** or **Low Significance**.

Site Extent: 20m x 20m



Figure 165 – General view of site MMEP 67.



Figure 166 – MSA mudstone flakes and blades.

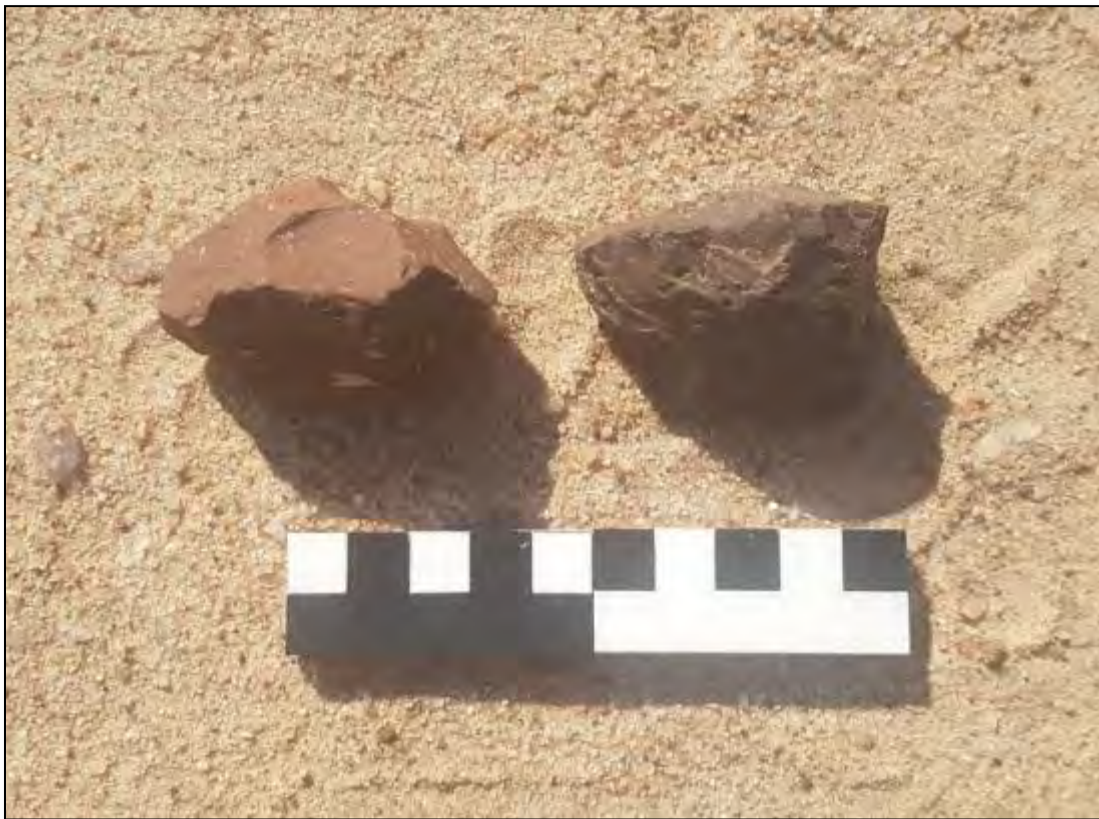


Figure 167 – MSA mudstone cores.



Figure 168 – Various pieces of undecorated ceramics observed on the surface of the site.

6.2.67 MMEP 68

GPS Coordinates:

S 23.94402

E 28.93734

Type: Historic Black Homestead

Description:

The site comprises the poorly preserved remains of a rectangular structure (6m x 4m). The only evidence for the walls of the structure is raised soil lines in the shape of a rectangular structure.

The only cultural material found in direct association with the structure are a small number of metal pieces of metal as well as a rusted tin.

From the tangible remains of the site it seems highly likely for it to have been occupied by black people. Past experience has shown that in some cases unmarked stillborn babies were buried in close proximity to such black homesteads. These stillborn babies were frequently buried along the sides, or underneath, the parents' dwelling. As the site is not occupied anymore, no direct information with regards to the presence (or not) of such graves is currently available.

Site MMEP 68 was identified approximately 37m from the depiction of a hut on the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970.

At present it would be very difficult to accurately date the site. It is possible for the site to be older than 60 years, but this is not presently certain.

Significance:

Until such time that the presence of graves at this site has been confirmed or disproved, the site must be viewed as containing graves. All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 20m x 20m



Figure 169 – General view of the rectangular structure from site MMEP 68. The scale is in 10cm increments.

6.2.68 MMEP 69

GPS Coordinates:

S 23.94582

E 28.93757

Type: Possible Burial Ground

Description:

The site comprises what appears to be the tangible remains of a burial ground. The key tangible elements of the site include a single rectangular excavated hole associated with fragments of a pebble-covered concrete slab as typically found on grave dressings. A few meters from the excavated hole a small stone concentration (1.5m x 1m) is located.

The rectangular excavated hole associated with grave dressing remains indicate that a burial ground must have been located here. Furthermore, the tangible remains of the site point to the fact that at least one grave was relocated from the site.

The authors are aware that a grave relocation project was implemented by Mogalakwena Mine during the late 2000s. It is possible for this site to be the tangible remains of a burial ground relocated as part of that project. This said, and without documentary evidence to the contrary, it is not certain whether any more graves are buried here.

Furthermore, site MMEP 69 was identified approximately 30m from the depiction of a hut on the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970. It is therefore possible for a homestead with unmarked stillborn graves to also still be located here.

Significance:

Until such time that the presence of graves has been confirmed or disproved, the site must be viewed as containing graves. All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 50m x 50m



Figure 170 – General view of the excavated hole from site MMEP 69. The scale is in 10cm increments.



Figure 171 – These sections of pebble-covered concrete slab were found in association with the excavated hole depicted above. It is clear that these sections were derived from a grave dressing.

6.2.69 MMEP 70

GPS Coordinates:

S 23.95428

E 28.92465

Type: Historic Black Homestead

Description:

The site comprises a level open area within which three stones were identified which were placed in such a way that they appear to form the three corners of a rectangular area roughly 4m x 4m in extent. It seems likely for these three stones to have formed the anchors of a corrugated iron dwelling, with the roof of the structure tied with wire to these three stones.

A small stone concentration was identified a few meters from the possible dwelling. Cultural material in the form of a single imported ceramic fragment as well as a metal screw was observed on the surface of the site.

From the tangible remains of the site it seems highly likely for it to have been occupied by black people. Past experience has shown that in some cases unmarked stillborn babies were buried in close proximity to such black homesteads. These stillborn babies were frequently buried along the sides, or underneath, the parents' dwelling. As the site is not occupied anymore, no direct information with regards to the presence (or not) of such graves is currently available.

Site MMEP 70 was identified in proximity to a hut depicted on the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970.

At present it would be very difficult to accurately date the site. Based on the lack of stone foundation walls, the site is more than likely not very old.

Significance:

Until such time that the presence of graves at this site has been confirmed or disproved, the site must be viewed as containing graves. All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 40m x 40m



Figure 172 – General view of site MMEP 70. Inyoga Hill, on which site MMEP 57 is located, can be seen in the background. The scale is in 10cm increments.

6.2.70 MMEP 71

GPS Coordinates:

S 23.95376

E 28.92485

Type: Historic Black Homestead

Description:

The site is so poorly preserved that it was only identified due to a hut feature depicted in this area on the First Edition of the 2328DD Topographical Sheet that was surveyed in 1970. All that could be identified here is a raised area of soil which may be the remains of the homestead.

Cultural material in the form of a small number of imported ceramic fragments as well as a possible lower grinding stone was observed on the surface of the site.

From the tangible remains of the site it seems highly likely for it to have been occupied by black people. Past experience has shown that in some cases unmarked stillborn babies were buried in close proximity to such black homesteads. These stillborn babies were frequently buried along the sides, or underneath, the parents' dwelling. As the site is not occupied anymore, no direct information with regards to the presence (or not) of such graves is currently available.

At present it would be very difficult to accurately date the site.

Significance:

Until such time that the presence of graves at this site has been confirmed or disproved, the site must be viewed as containing graves. All graves have high levels of emotional, religious and in some cases historical significance. As such the site is of **Generally Protected A (GP. A)** or **High/Medium Significance**.

Site Extent: 40m x 40m



Figure 173 – General view of site MMEP 71. The hill on which site MMEP 57 is located can also be seen in the background. The scale is in 10cm increments.

7 IMPACT OF PROPOSED MINING DEVELOPMENT ON HERITAGE

7.1 General Observations

In this section, an assessment will be made of the impact of the proposed development on the identified heritage sites. The following general observations will apply for the impact assessment undertaken in this report:

- Heritage sites assessed to have a low heritage significance are not included in these impact risk assessment calculations. The reason for this is that sites of low significance will not require mitigation. These sites are MMEP 1, MMEP 8, MMEP 15, MMEP 20, MMEP 25, MMEP 32, MMEP 37, MMEP 52, MMEP 56, MMEP 58, MMEP 60, MMEP 63, MMEP 65 and MMEP 67.
- With the exception of three sites, all the sites identified during the fieldwork are located within the development footprint areas currently proposed. While it is known that these development footprint areas will still be amended pending the recommendations of the project specialists, for the purposes of this impact assessment all identified sites were assumed to be located within the development footprint areas with the result that they would be destroyed by the development if not mitigated.
- Sites MMEP 18, MMEP 42 and MMEP 54 are located outside of the development footprint areas. As a result, no impact assessment will be undertaken for these sites.
- The impact assessment methodology used in this report was provided by the client, namely SRK Consulting.
- Four project phases have been identified by SRK Consulting, namely the Pre-Construction Phase, Construction Phase, Operational Phase and the Decommissioning and Rehabilitation Phase. As site clearing activities of all the development footprint areas are grouped under the Pre-Construction Phase, the highest level of impact on the identified heritage sites is expected during this phase. All the identified heritage sites are expected to be completely destroyed in terms of the pre-mitigation impact assessments undertaken below, whereas only those sites not mitigated by amendments to the proposed development footprints will also be completely destroyed in terms of the post-mitigation impact assessment calculations undertaken below.

7.2 Assessment of Pre-Mitigation Impact on the identified Heritage Sites

7.2.1 Assessment of the Pre-Mitigated Impact on Graves and Burial Grounds

In this section, the unmitigated impact of the proposed development on sites MMEP 10, MMEP 13, MMEP 17, MMEP 21, MMEP 24, MMEP 27, MMEP 31, MMEP 34, MMEP 36 and MMEP 66 will be assessed.

All ten these sites are grouped together in this impact assessment as they are confirmed graves and burial grounds.

In terms of the project phases, and without mitigation undertaken, all ten sites are expected to be completely destroyed during the Pre-Construction Phase. With their destruction completed during the Pre-Construction Phase, no impacts are expected during the Construction, Operational and the Decommissioning and Rehabilitation Phases.

Table 3 - Assessment of Pre-Mitigated Impact of Proposed Development on Burial Grounds

Nature of the impact	Significance of potential impact BEFORE mitigation						Significance
	Probability	Duration	Extent	Magnitude	Loss of Resources (%)		
Pre-Construction Phase							
<i>Complete destruction of ten sites containing burial grounds</i>	-	4	5	4	8	3	68 High
Construction Phase							
<i>No further impacts expected</i>	0	0	0	0	0	0	0 None
Operational Phase							
<i>No further impacts expected</i>	0	0	0	0	0	0	0 None
Closure/Rehabilitation Phase							
<i>No further impacts expected</i>	0	0	0	0	0	0	0 None
Post-Closure Phase							
<i>No further impacts expected</i>	0	0	0	0	0	0	0 None

The calculation of the assessment of the unmitigated impact of the proposed development on the cemeteries and grave sites located within the development footprints is expected to be of **High Significance**.

The result of this impact assessment calculation means that mitigation measures would be required for these sites. See Chapter 8 for required mitigation measures.

7.2.2 Assessment of the Pre-Mitigated Impact on Possible Graves, Relocated Burial Grounds which may still Contain Graves as well as Historic Black Homesteads

In this section, the unmitigated impact of the proposed development on sites MMEP 2, MMEP 4, MMEP 7, MMEP 11, MMEP 12, MMEP 14, MMEP 16, MMEP 19, MMEP 22, MMEP 23, MMEP 26, MMEP 28, MMEP 29, MMEP 30, MMEP 33, MMEP 35, MMEP 39, MMEP 40, MMEP 41, MMEP 44, MMEP 45, MMEP 46, MMEP 51, MMEP 53, MMEP 55, MMEP 59, MMEP 61, MMEP 62, MMEP 64, MMEP 68, MMEP 69, MMEP 70 and MMEP 71 will be assessed.

These 33 sites comprise three different site types, namely possible graves, historic black

homesteads where the risk for unmarked stillborn graves exist and finally burial grounds which had been relocated in the past but where the risk for graves to be located still exists.

In terms of the project phases, and without mitigation undertaken, all eleven sites are expected to be completely destroyed during the Pre-Construction Phase. With their destruction completed during the Pre-Construction Phase, no impacts are expected during the Construction, Operational and the Decommissioning and Rehabilitation Phases.

Please note that in the calculations undertaken below, the level of probability was taken to be the level of probability graves would be present at the three site types falling under this group.

Table 4 - Assessment of Pre-Mitigated Impact of Proposed Development on 33 Possible Graves, Historic Black Homesteads and Burial Grounds which had been relocated in the Past

Nature of the impact	Significance of potential impact BEFORE mitigation						Significance	
	Probability	Duration	Extent	Magnitude	Loss of Resources (%)			
Pre-Construction Phase								
Complete destruction of 33 sites where the risk exists for graves to be located	-	3	5	3	8	3	48	Moderate
Construction Phase								
No further impacts expected	0	0	0	0	0	0	0	None
Operational Phase								
No further impacts expected	0	0	0	0	0	0	0	None
Closure/Rehabilitation Phase								
No further impacts expected	0	0	0	0	0	0	0	None
Post-Closure Phase								
No further impacts expected	0	0	0	0	0	0	0	None

The calculation of the assessment of the unmitigated impact of the proposed development on these 33 sites, has revealed that the impact significance on these sites is expected to be of **Moderate Significance**. The result of this impact assessment calculation means that mitigation measures would be required for these sites. See Chapter 8 for required mitigation measures.

7.2.3 Assessment of the Pre-Mitigated Impact on Stone Age sites

In this section, the unmitigated impact of the proposed development on sites MMEP 5, MMEP 6, MMEP 9, MMEP 47, MMEP 48 and MMEP 49 will be assessed.

These six sites are Stone Age sites, predominantly medium to high density Middle Stone Age surface scatters, assessed during the fieldwork to have a Medium Significance.

In terms of the project phases, and without mitigation undertaken, all eleven sites are expected to be completely destroyed during the Pre-Construction Phase. With their destruction completed during the Pre-Construction Phase, no impacts are expected during the Construction, Operational and the Decommissioning and Rehabilitation Phases.

Table 5 - Assessment of Pre-Mitigated Impact of Proposed Development on Stone Age sites assessed during the fieldwork to be of Medium Significance

Nature of the impact	Significance of potential impact BEFORE mitigation						Significance
	Probability	Duration	Extent	Magnitude	Loss of Resources (%)		
Pre-Construction Phase							
Complete destruction of Stone Age sites	-	4	5	3	4	4	48 Moderate
Construction Phase							
No further impacts expected	0	0	0	0	0	0	0 None
Operational Phase							
No further impacts expected	0	0	0	0	0	0	0 None
Closure/Rehabilitation Phase							
No further impacts expected	0	0	0	0	0	0	0 None
Post-Closure Phase							
No further impacts expected	0	0	0	0	0	0	0 None

The calculation of the assessment of the unmitigated impact of the proposed development on the Stone Age sites, has revealed that the impact significance on this sites is expected to be of **Moderate Significance**.

The result of this impact assessment calculation means that mitigation measures would be required. See Chapter 8 for required mitigation measures for this site.

7.2.4 Assessment of the Pre-Mitigated Impact on Late Iron Age stonewalled sites

In this section, the unmitigated impact of the proposed development on site MMEP 50 will be assessed.

The above-mentioned site comprises a Late Iron Age stonewalled settlement located within the proposed development footprint areas.

In terms of the project phases, and without mitigation undertaken, all eleven sites are expected to be completely destroyed during the Pre-Construction Phase. With their destruction completed during the Pre-Construction Phase, no impacts are expected during the Construction, Operational and the Decommissioning and Rehabilitation Phases.

The pre-mitigation impact assessment calculation is outlined below.

Table 6 - Assessment of Pre-Mitigated Impact of Proposed Development on one Late Iron Age stonewalled site

Nature of the impact	Significance of potential impact BEFORE mitigation						
	Probability	Duration	Extent	Magnitude	Loss of Resources (%)	Significance	
Pre-Construction Phase							
<i>Complete destruction of one Late Iron Age stonewalled site</i>	-	4	5	2	4	2	44 Moderate
Construction Phase							
<i>No further impacts expected</i>	0	0	0	0	0	0	0 None
Operational Phase							
<i>No further impacts expected</i>	0	0	0	0	0	0	0 None
Closure/Rehabilitation Phase							
<i>No further impacts expected</i>	0	0	0	0	0	0	0 None
Post-Closure Phase							
<i>No further impacts expected</i>	0	0	0	0	0	0	0 None

The calculation of the assessment of the unmitigated impact of the proposed development on the Late Iron Age stonewalled site has revealed that the impact significance on this site is expected to be of **Moderate Significance**.

The result of this impact assessment calculation means that mitigation measures would be required. See Chapter 8 for required mitigation measures for this site.

7.2.5 Assessment of the Pre-Mitigated Impact on a Site comprising a Natural Boulder with Cupules and Stonewalling

In this section, the unmitigated impact of the proposed development on site MMEP 3 will be assessed. The site comprises a large natural boulder on which a number of cupules were observed. A small number of shallow grinding surfaces were also observed on the boulder. Furthermore, two small irregularly-shaped and attached stone enclosures were identified against the western end of the boulder.

In terms of the project phases, and without mitigation undertaken, this site is expected to be completely destroyed during the Pre-Construction Phase. With its destruction completed during the Pre-Construction Phase, no impacts are expected during the Construction, Operational and the Decommissioning and Rehabilitation Phases.

Table 7 - Assessment of Pre-Mitigated Impact of Proposed Development on a Site comprising a Natural Boulder with Cupules and associated Stonewalling

Nature of the impact	Significance of potential impact BEFORE mitigation							
	Probability	Duration	Extent	Magnitude	Loss of Resources (%)	Significance		
Pre-Construction Phase								
Complete destruction of MMEP 3	-	4	5	3	6	3	46	Moderate
Construction Phase								
No further impacts expected	0	0	0	0	0	0	0	None
Operational Phase								
No further impacts expected	0	0	0	0	0	0	0	None
Closure/Rehabilitation Phase								
No further impacts expected	0	0	0	0	0	0	0	None
Post-Closure Phase								
No further impacts expected	0	0	0	0	0	0	0	None

The calculation of the assessment of the unmitigated impact of the proposed development on these sites has revealed that the impact significance on these sites is expected to be of **Moderate Significance** during the Pre-Construction Phase.

The result of this impact assessment calculation means that mitigation measures would be required. See Chapter 8 for required mitigation measures for this site.

7.2.6 Assessment of the Pre-Mitigated Impact on Rain-Making Site

In this section, the unmitigated impact of the proposed development on site MMEP 57 will be assessed.

The site is located near the top of a steep-sided hill, where a very high density surface scatter of Iron Age ceramics was identified on several soil plateaus that have acted as catchments for the ceramics. The site can be interpreted as a rain-making site.

In terms of the project phases, and without mitigation undertaken, this site is expected to be completely destroyed during the Pre-Construction Phase. With its destruction completed during the Pre-Construction Phase, no impacts are expected during the Construction, Operational and the Decommissioning and Rehabilitation Phases.

Table 8 - Assessment of Pre-Mitigated Impact of Proposed Development on a Rain-Making Site

Nature of the impact	Significance of potential impact BEFORE mitigation							
	Probability	Duration	Extent	Magnitude	Loss of Resources (%)	Significance		
Pre-Construction Phase								
Complete destruction of MMEP 57	-	4	5	4	8	4	68	High

Construction Phase								
No further impacts expected	0	0	0	0	0	0	0	None
Operational Phase								
No further impacts expected	0	0	0	0	0	0	0	None
Closure/Rehabilitation Phase								
No further impacts expected	0	0	0	0	0	0	0	None
Post-Closure Phase								
No further impacts expected	0	0	0	0	0	0	0	None

The calculation of the assessment of the unmitigated impact of the proposed development on these sites has revealed that the impact significance on these sites is expected to be of **High Significance** during the Pre-Construction Phase.

The result of this impact assessment calculation means that mitigation measures would be required. See Chapter 8 for required mitigation measures for this site.

7.2.7 Assessment of the Pre-Mitigated Impact on a Historic Farmstead associated with a Historic Black Homestead and Graves

In this section, the unmitigated impact of the proposed development on site MMEP 43 will be assessed.

MMEP 43 comprises a historic farmstead associated with a historic black homestead and graves.

In terms of the project phases, and without mitigation undertaken, the site is expected to be completely destroyed during the Pre-Construction Phase. With its destruction completed during the Pre-Construction Phase, no impacts are expected during the Construction, Operational and the Decommissioning and Rehabilitation Phases.

As can be seen below, the calculation of the assessment of the unmitigated impact of the proposed development on the site is expected to be of **High Significance**. The result of this impact assessment calculation means that mitigation measures would be required for these sites. See Chapter 8 for required mitigation measures.

Table 9 - Assessment of Pre-Mitigated Impact of Proposed Development on a Historic Homestead associated with a Historic Black Homestead and Graves

Nature of the impact	Significance of potential impact BEFORE mitigation						Significance
	Probability	Duration	Extent	Magnitude	Loss of Resources (%)		
Pre-Construction Phase							
Complete destruction of MMEP 43	-	4	5	4	8	3	68 High

Construction Phase								
No further impacts expected	0	0	0	0	0	0	0	None
Operational Phase								
No further impacts expected	0	0	0	0	0	0	0	None
Closure/Rehabilitation Phase								
No further impacts expected	0	0	0	0	0	0	0	None
Post-Closure Phase								
No further impacts expected	0	0	0	0	0	0	0	None

7.2.8 Assessment of the Pre-Mitigated Impact on a Rubbing Post

In this section, the unmitigated impact of the proposed development on site MMEP 38 will be assessed.

MMEP 38 comprises a rubbing post used by mammals to remove ectoparasites. Such rubbing posts are frequently associated with Later Stone Age sites containing engravings. Although no such engravings could be observed during the fieldwork, it is still possible for the boulder to contain such engravings which may have been deteriorated by the frequent rubbing by animals.

In terms of the project phases, and without mitigation undertaken, the site is expected to be completely destroyed during the Pre-Construction Phase. With its destruction completed during the Pre-Construction Phase, no impacts are expected during the Construction, Operational and the Decommissioning and Rehabilitation Phases.

As can be seen below, the calculation of the assessment of the unmitigated impact of the proposed development on the site is expected to be of **Moderate Significance**.

The result of this impact assessment calculation means that mitigation measures would be required for these sites. See Chapter 8 for required mitigation measures.

Table 10 - Assessment of Pre-Mitigated Impact of Proposed Development on a Rubbing Post that may potentially be associated with the Stone Age

Nature of the impact	Significance of potential impact BEFORE mitigation						
	Probability	Duration	Extent	Magnitude	Loss of Resources (%)	Significance	
Pre-Construction Phase							
Complete destruction of MMEP 38	-	3	5	3	6	3	42 Moderate
Construction Phase							
No further impacts expected	0	0	0	0	0	0	0 None

Operational Phase								
No further impacts expected	0	0	0	0	0	0	0	None
Closure/Rehabilitation Phase								
No further impacts expected	0	0	0	0	0	0	0	None
Post-Closure Phase								
No further impacts expected	0	0	0	0	0	0	0	None

7.3 Assessment of Post-Mitigation Impact on the identified Heritage Sites

7.3.1 Assessment of the Post-Mitigated Impact on Graves and Burial Grounds

In this section, the post-mitigation impact of the proposed development on sites MMEP 10, MMEP 13, MMEP 17, MMEP 21, MMEP 24, MMEP 27, MMEP 31, MMEP 34, MMEP 36 and MMEP 66 will be assessed.

Please note, that the post-mitigation impact assessment calculations undertaken below are based on the understanding that it was not possible for the development footprints to be modified in such a way for one or more of these burial grounds to be preserved *in situ*. Rather, the impact assessment calculations undertaken below are based on the understanding that one or more of these burial grounds have been successfully relocated.

Please also note that the probability level used in this calculation, also takes cognisance of the level of probability for graves to be destroyed by the development once mitigation is complete.

Again, the only impacts are expected during the Pre-Construction Phase, based on the understanding that all development footprint areas will be cleared during this phase and any tangible remains left on site after mitigation will be completely destroyed during the Pre-Construction Phase.

With the relocation of these burial grounds successfully completed, the significance of the potential impact of the proposed development on these graves and cemeteries, are expected to be of a low **Moderate Significance**.

With the significance of the impact of the development reduced from a pre-mitigation High Significance to a post-mitigation low Moderate Significance, the degree to which the potential impact could be reversed and mitigated with the mitigation measures proposed in Chapter 8, is estimated to be 55.9%.

Table 11 - Assessment of Post-Mitigated Impact of Proposed Development on Burial Grounds

Nature of the impact	Significance of potential impact AFTER mitigation
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	Probability	Duration	Extent	Magnitude	Loss of Resources (%)	Significance		
Pre-Construction Phase								
<i>Post-mitigated impact on ten burial grounds</i>	-	2	5	4	6	2	30	Moderate
Construction Phase								
<i>No further impacts expected</i>	0	0	0	0	0	0	0	None
Operational Phase								
<i>No further impacts expected</i>	0	0	0	0	0	0	0	None
Closure/Rehabilitation Phase								
<i>No further impacts expected</i>	0	0	0	0	0	0	0	None
Post-Closure Phase								
<i>No further impacts expected</i>	0	0	0	0	0	0	0	None

7.3.2 Assessment of the Post-Mitigated Impact on Possible Graves, Relocated Burial Grounds which may still Contain Graves as well as Historic Black Homesteads

In this section, the impact of the proposed development on sites MMEP 2, MMEP 4, MMEP 7, MMEP 11, MMEP 12, MMEP 14, MMEP 16, MMEP 19, MMEP 22, MMEP 23, MMEP 26, MMEP 28, MMEP 29, MMEP 30, MMEP 33, MMEP 35, MMEP 39, MMEP 40, MMEP 41, MMEP 44, MMEP 45, MMEP 46, MMEP 51, MMEP 53, MMEP 55, MMEP 59, MMEP 61, MMEP 62, MMEP 64, MMEP 68, MMEP 69, MMEP 70 and MMEP 71 will be assessed.

These 33 sites comprise three different site types, namely possible graves, historic black homesteads where the risk for unmarked stillborn graves exist and finally burial grounds which had been relocated in the past but where the risk for graves to be located still exists.

For the impact assessment calculations included in this section, it is assumed that all the mitigation measures as outlined in Chapter 8 have been successfully completed.

Again, the only impacts are expected during the Pre-Construction Phase, based on the understanding that all development footprints areas will be cleared during this phase and any tangible remains left on site after mitigation will be completely destroyed during the Pre-Construction Phase.

With the mitigation measures successfully completed, the significance of the potential impact of the proposed development on these sites, are expected to be of **Low Significance**. Please note that in the calculations undertaken below, the level of probability also takes cognisance of the level of probability that graves would be present at the three site types falling under this group.

With the significance of the impact of the development reduced from a pre-mitigation Moderate Significance to a post-mitigation Low Significance, the degree to which the potential impact could

be reversed and mitigated with the mitigation measures proposed in Chapter 8, is estimated to be 54.2%.

Table 12 - Assessment of Post-Mitigated Impact of Proposed Development on 33 Possible Graves, Historic Black Homesteads and Burial Grounds which had been relocated in the Past

Nature of the impact	Significance of potential impact AFTER mitigation						Significance
	Probability	Duration	Extent	Magnitude	Loss of Resources (%)		
Pre-Construction Phase							
Post-mitigation impact on 33 sites	-	2	5	2	4	2	22 Low
Construction Phase							
No further impacts expected	0	0	0	0	0	0	0 None
Operational Phase							
No further impacts expected	0	0	0	0	0	0	0 None
Closure/Rehabilitation Phase							
No further impacts expected	0	0	0	0	0	0	0 None
Post-Closure Phase							
No further impacts expected	0	0	0	0	0	0	0 None

7.3.3 Assessment of the Pre-Mitigated Impact on Stone Age sites

In this section, the post-mitigation impact of the proposed development on sites MMEP 5, MMEP 6, MMEP 9, MMEP 47, MMEP 48 and MMEP 49 will be assessed.

These six sites are Stone Age sites, predominantly medium to high density Middle Stone Age surface scatters, assessed during the fieldwork to have a Medium Significance.

For the impact assessment calculations included in this section, it is assumed that all the mitigation measures as outlined in Chapter 8 have been successfully completed.

Again, the only impacts are expected during the Pre-Construction Phase, based on the understanding that all development footprints areas will be cleared during this phase and any tangible remains left on site after mitigation will be completely destroyed during the Pre-Construction Phase.

Please also note that the probability level used in this calculation, also takes cognisance of the probability of Stone Age archaeological material and deposits being impacted upon by the proposed development.

With the mitigation measures successfully completed, the significance of the potential impact of the proposed development on these sites, are expected to be of **Low Significance**.

With the significance of the impact of the development reduced from a pre-mitigation Moderate Significance to a post-mitigation Low Significance, the degree to which the potential impact could be reversed and mitigated with the mitigation measures proposed in Chapter 8, is estimated to be 43.8%.

Table 13 - Assessment of Post-Mitigated Impact of Proposed Development on Stone Age sites assessed during the fieldwork to be of Medium Significance

Nature of the impact	Significance of potential impact AFTER mitigation						Significance	
	Probability	Duration	Extent	Magnitude	Loss of Resources (%)			
Pre-Construction Phase								
Post-mitigation impact on Stone Age sites	-	3	5	2	2	2	27	Low
Construction Phase								
No further impacts expected	0	0	0	0	0	0	0	None
Operational Phase								
No further impacts expected	0	0	0	0	0	0	0	None
Closure/Rehabilitation Phase								
No further impacts expected	0	0	0	0	0	0	0	None
Post-Closure Phase								
No further impacts expected	0	0	0	0	0	0	0	None

7.3.4 Assessment of the Post-Mitigated Impact on Late Iron Age stonewalled sites

In this section, the post-mitigation impact of the proposed development on site MMEP 50 will be assessed.

The above-mentioned site comprises a Late Iron Age stonewalled settlement located within the proposed development footprint areas.

For the impact assessment calculations included in this section, it is assumed that all the mitigation measures as outlined in Chapter 8 have been successfully completed.

Again, the only impacts are expected during the Pre-Construction Phase, based on the understanding that all development footprint areas will be cleared during this phase and any tangible remains left on site after mitigation will be completely destroyed during the Pre-Construction Phase.

Please also note that the probability level used in this calculation, also takes cognisance of the probability of Iron Age archaeological material and deposits being impacted upon by the proposed

development.

With the mitigation measures successfully completed, the significance of the potential impact of the proposed development on these sites, are expected to be of **Low Significance**.

With the significance of the impact of the development reduced from a pre-mitigation Moderate Significance to a post-mitigation Low Significance, the degree to which the potential impact could be reversed and mitigated with the mitigation measures proposed in Chapter 8, is estimated to be 38.6%.

Table 14 - Assessment of Post-Mitigated Impact of Proposed Development on one Late Iron Age stonewalled site

Nature of the impact	Significance of potential impact AFTER mitigation						Significance	
	Probability	Duration	Extent	Magnitude	Loss of Resources (%)			
Pre-Construction Phase								
<i>Post-mitigated impact on Late Iron Age stonewalled site</i>	-	3	5	2	2	1	27	Low
Construction Phase								
<i>No further impacts expected</i>	0	0	0	0	0	0	0	None
Operational Phase								
<i>No further impacts expected</i>	0	0	0	0	0	0	0	None
Closure/Rehabilitation Phase								
<i>No further impacts expected</i>	0	0	0	0	0	0	0	None
Post-Closure Phase								
<i>No further impacts expected</i>	0	0	0	0	0	0	0	None

7.3.5 Assessment of the Post-Mitigated Impact on a Site comprising a Natural Boulder with Cupules and Stonewalling

In this section, the post-mitigation impact of the proposed development on site MMEP 3 will be assessed. This site comprises a boulder containing cupules and grinding surfaces with two small stonewalled enclosures built adjacent to the boulder.

For the impact assessment calculations included in this section, it is assumed that all the mitigation measures as outlined in Chapter 8 have been successfully completed.

Again, the only impacts are expected during the Pre-Construction Phase, based on the understanding that all development footprints areas will be cleared during this phase and any tangible remains left on site after mitigation will be completely destroyed during the Pre-Construction Phase.

With the mitigation measures successfully completed, the significance of the potential impact of the proposed development on these sites, are expected to be reduced from a high Moderate Significance to a low **Moderate Significance**.

With the significance of the impact of the development reduced from a pre-mitigation high Moderate Significance to a post-mitigation low Moderate Significance, the degree to which the potential impact could be reversed and mitigated with the mitigation measures proposed in Chapter 8, is estimated to be 41.1%.

Table 15 - Assessment of Post-Mitigated Impact of Proposed Development on a Site comprising a Natural Boulder with Cupules and associated Stonewalling

Nature of the impact	Significance of potential impact AFTER mitigation							
	Probability	Duration	Extent	Magnitude	Loss of Resources (%)	Significance		
Pre-Construction Phase								
<i>Post-mitigated impact on MMEP 3</i>	-	3	5	2	4	2	33	Moderate
Construction Phase								
<i>No further impacts expected</i>	0	0	0	0	0	0	0	None
Operational Phase								
<i>No further impacts expected</i>	0	0	0	0	0	0	0	None
Closure/Rehabilitation Phase								
<i>No further impacts expected</i>	0	0	0	0	0	0	0	None
Post-Closure Phase								
<i>No further impacts expected</i>	0	0	0	0	0	0	0	None

7.3.6 Assessment of the Post-Mitigated Impact on Rain-Making Site

In this section, the unmitigated impact of the proposed development on site MMEP 57 will be assessed. The site is located near the top of a steep-sided hill, where a very high density surface scatter of Iron Age ceramics was identified on several soil plateaus that have acted as catchments for the ceramics. The site can be interpreted as a rain-making site.

Please note, that the post-mitigation impact assessment calculations undertaken below are based on the understanding that it was not possible for the development footprints to be modified in such a way for one or more of these burial grounds to be preserved *in situ*. Rather, the impact assessment calculations undertaken below are based on the understanding that the site was archaeological mitigated, but destroyed. Also note that the probability level used in this calculation, does not have to do with the probability of the graves located there, but of the probability of the actual development impact taking place.

Again, the only impacts are expected during the Pre-Construction Phase, based on the

understanding that all development footprints areas will be cleared during this phase and any tangible remains left on site after mitigation will be completely destroyed during the Pre-Construction Phase. With the archaeological mitigation on the site completed, the significance of the potential impact of the proposed development on the site is expected to be of a high **Moderate Significance**. With the significance of the impact of the development reduced from a pre-mitigation High Significance to a post-mitigation high Moderate Significance, the degree to which the potential impact could be reversed and mitigated with the mitigation measures proposed in Chapter 8, is estimated to be only 17.6%.

Table 16 - Assessment of Post-Mitigated Impact of Proposed Development on Rain-Making Site

Nature of the impact	Significance of potential impact AFTER mitigation						
	Probability	Duration	Extent	Magnitude	Loss of Resources (%)	Significance	
Pre-Construction Phase							
Post-mitigated impact on MMEP 57	-	4	5	3	6	3	56 Moderate
Construction Phase							
No further impacts expected	0	0	0	0	0	0	0 None
Operational Phase							
No further impacts expected	0	0	0	0	0	0	0 None
Closure/Rehabilitation Phase							
No further impacts expected	0	0	0	0	0	0	0 None
Post-Closure Phase							
No further impacts expected	0	0	0	0	0	0	0 None

7.3.7 Assessment of the Post-Mitigated Impact on a Historic Farmstead associated with a Historic Black Homestead and Graves

In this section, the post-mitigation impact of the proposed development on site MMEP 43 will be assessed. The site comprises a historic farmstead associated with a historic black homestead and graves.

Please note, that the post-mitigation impact assessment calculations undertaken below are based on the understanding that as per the mitigation measures recommended in this report, the development footprints are modified in such a way for the site to be preserved *in situ*.

Also note that the probability level used in this calculation, does not have to do with the probability of the graves located there, but of the probability of the actual development impact taking place.

Again, the only impacts are expected during the Pre-Construction Phase, based on the understanding that all development footprints areas will be cleared during this phase and any tangible remains left on site after mitigation will be completely destroyed during the Pre-

Construction Phase. With the mitigation on the site completed, the significance of the potential impact of the proposed development on the site is expected to be of a **Low Significance**.

With the significance of the impact of the development reduced from a pre-mitigation High Significance to a post-mitigation Low Significance, the degree to which the potential impact could be reversed and mitigated with the mitigation measures proposed in Chapter 8, is estimated to be 58.8%.

Table 17 - Assessment of Post-Mitigated Impact of Proposed Development on a Historic Homestead associated with a Historic Black Homestead and Graves

Nature of the impact	Significance of potential impact AFTER mitigation							
	Probability	Duration	Extent	Magnitude	Loss of Resources (%)	Significance		
Pre-Construction Phase								
<i>Post-mitigation impact on MMEP 43</i>	-	2	5	3	6	3	28	Moderate
Construction Phase								
<i>No further impacts expected</i>	0	0	0	0	0	0	0	None
Operational Phase								
<i>No further impacts expected</i>	0	0	0	0	0	0	0	None
Closure/Rehabilitation Phase								
<i>No further impacts expected</i>	0	0	0	0	0	0	0	None
Post-Closure Phase								
<i>No further impacts expected</i>	0	0	0	0	0	0	0	None

7.3.8 Assessment of the Post-Mitigated Impact on a Rubbing Post

In this section, the unmitigated impact of the proposed development on site MMEP 38 will be assessed. MMEP 38 comprises a rubbing post used by mammals to remove ectoparasites. Such rubbing posts are frequently associated with Later Stone Age sites containing engravings. Although no such engravings could be observed during the fieldwork, it is still possible for the boulder to contain such engravings which may have been deteriorated by the frequent rubbing by animals.

For the impact assessment calculations included in this section, it is assumed that all the mitigation measures as outlined in Chapter 8 have been successfully completed.

Again, the only impacts are expected during the Pre-Construction Phase, based on the understanding that all development footprints areas will be cleared during this phase and any tangible remains left on site after mitigation will be completely destroyed during the Pre-Construction Phase.

With the mitigation measures successfully completed, the significance of the potential impact of the proposed development on these sites, are expected to be reduced from a **Moderate Significance**

to a **Low Significance**.

With the significance of the impact of the development reduced from a Moderate Significance to a post-mitigation Low Significance, the degree to which the potential impact could be reversed and mitigated with the mitigation measures proposed in Chapter 8, is estimated to be 35.7%.

Table 18 - Assessment of Post-Mitigated Impact of Proposed Development on a Rubbing Post that may potentially be associated with the Stone Age

Nature of the impact	Significance of potential impact AFTER mitigation						Significance	
	Probability	Duration	Extent	Magnitude	Loss of Resources (%)			
Pre-Construction Phase								
Post-mitigation impact on MMEP 38	-	3	5	2	2	2	27	Low
Construction Phase								
No further impacts expected	0	0	0	0	0	0	0	None
Operational Phase								
No further impacts expected	0	0	0	0	0	0	0	None
Closure/Rehabilitation Phase								
No further impacts expected	0	0	0	0	0	0	0	None
Post-Closure Phase								
No further impacts expected	0	0	0	0	0	0	0	None

8 REQUIRED MITIGATION MEASURES

8.1 Introduction

In this chapter, required mitigation measures for each of the sites affected by the proposed development will be outlined.

As shown in Chapter 7, no mitigation is required for sites with a Low Significance. This means that no mitigation is required for sites MMEP 1, MMEP 8, MMEP 15, MMEP 20, MMEP 25, MMEP 32, MMEP 37, MMEP 52, MMEP 56, MMEP 58, MMEP 60, MMEP 63, MMEP 65 and MMEP 67.

Furthermore, three of the identified heritage sites are located outside of the present development footprint areas. As such, no mitigation is required for these as well. The three sites identified outside of the present development footprint, are MMEP 18, MMEP 42 and MMEP 54.

In terms of the remaining sites for which mitigation is required, site-specific mitigation measures are provided below.

8.2 Required Mitigation Measures for the Identified Sites

8.2.1 Required Mitigation for Burial Grounds

The sites where burial grounds were identified, are MMEP 10, MMEP 13, MMEP 17, MMEP 21, MMEP 24, MMEP 27, MMEP 31, MMEP 34, MMEP 36 and MMEP 66.

The impact significance calculations undertaken in Chapter 7 have shown that the significance of the unmitigated impact of the proposed development on these ten sites is estimated to be of High Significance. As a result, mitigation measures are required for these sites.

As cemeteries and graves have Medium to High Heritage Significance, the best option is to change the development footprint to allow for the *in situ* preservation of these sites. However, should it not be possible to preserve these sites *in situ*, the required mitigation measures are outlined below.

- A grave relocation process must be undertaken.
- A detailed social consultation process, at least 60 days in length, comprising the attempted identification of the next-of-kin in order to obtain their consent for the relocation.
- Bilingual site and newspaper notices indicating the intent of the relocation.
- Permits from all the relevant and legally required authorities.
- An exhumation process that keeps the dignity of the remains and family intact.
- An exhumation process that safeguards the legal rights of the families as well as that of the mining company.
- The process must be done by a reputable company well versed in the mitigation of graves.

8.2.2 Required Mitigation for Possible Graves, Relocated Burial Grounds which may still Contain Graves as well as Historic Black Homesteads

These sites are MMEP 2, MMEP 4, MMEP 7, MMEP 11, MMEP 12, MMEP 14, MMEP 16, MMEP 19, MMEP 22, MMEP 23, MMEP 26, MMEP 28, MMEP 29, MMEP 30, MMEP 33, MMEP 35, MMEP 39, MMEP 40, MMEP 41, MMEP 44, MMEP 45, MMEP 46, MMEP 51, MMEP 53, MMEP 55, MMEP 59, MMEP 61, MMEP 62, MMEP 64, MMEP 68, MMEP 69, MMEP 70 and MMEP 71.

The impact significance calculations undertaken in Chapter 7 have shown that the significance of the unmitigated impact of the proposed development on these 33 sites is estimated to be of Moderate Significance. As a result, mitigation measures are required for these sites.

The following initial mitigation measure is required:

- A social consultation process to assess whether any local residents or the wider public is aware of the presence of graves at these sites.

Depending on the outcome of the social consultation process, three different outcomes would be the result, namely:

- Outcome 1: The social consultation absolutely confirms that no graves are located here.
- Outcome 2: The social consultation absolutely confirms that graves are located here.
- Outcome 3: The social consultation does not yield any confident results.

The following mitigation measures would be required for sites falling under Outcome 1:

- No further grave-related mitigation would be required.

The following mitigation measures would be required for sites falling under Outcome 2:

- A grave relocation process must be undertaken.
- A detailed social consultation process, at least 60 days in length, comprising the attempted identification of the next-of-kin in order to obtain their consent for the relocation.
- Bilingual site and newspaper notices indicating the intent of the relocation.
- Permits from all the relevant and legally required authorities.
- An exhumation process that keeps the dignity of the remains and family intact.
- An exhumation process that safeguards the legal rights of the families as well as that of the mining company.
- The process must be done by a reputable company well versed in the mitigation of graves.

The following mitigation measures would be required for sites falling under Outcome 3:

- Test excavations to physically confirm the presence or absence graves.
- If no evidence for graves is found, the site will fall within Outcome 1 as outlined above. This means that no further mitigation measures would be required.
- If evidence for graves is found, the site will fall within Outcome 2 as outlined above. This means that a full grave relocation process must be implemented.

Additionally, the following mitigation measures must be undertaken for all these sites:

- All structures and site layouts from each site must be recorded using standard survey methods. The end result would be site layout plans for all these sites.
- A mitigation report must be compiled for these sites within which all the mitigation measures and its findings will be outlined. The recorded drawings from the previous item must also be included in this mitigation report.
- The completed mitigation report must be submitted to the relevant heritage authorities.

8.2.3 Required Mitigation Measures for Stone Age sites

The sites relevant to this section, are MMEP 5, MMEP 6, MMEP 9, MMEP 47, MMEP 48 and MMEP 49. The impact significance calculations undertaken in Chapter 7 have shown that the significance of the unmitigated impact of the proposed development on these sites is estimated to be of Moderate Significance. As a result, mitigation measures are required.

The following mitigation measure is required for the six sites:

- The sites must be assessed in the field by a suitably qualified Stone Age specialist.
- The recommendations made by the Stone Age specialist must be adhered to. Such recommendations may include the archaeological recording of a surface layout plan, surface collection of lithics, etc.

8.2.4 Required Mitigation Measures for Late Iron Age stonewalled sites

Only one site is relevant to this section, namely site MMEP 50. The impact significance calculations undertaken in Chapter 7 have shown that the significance of the unmitigated impact of the proposed development on the above-mentioned site is estimated to be of Moderate Significance. As a result, mitigation measures are required.

The following mitigation measure is required for the site:

- An archaeological site layout plan must be compiled using accepted archaeological techniques.
- During the recording of the archaeological site layout plan, an attempt must be made to identify any archaeological middens associated with this site. Should such middens be identified, archaeological test excavations would be required. If no such middens are found, the next two mitigation measures comprising an archaeological excavation permit application and archaeological test excavations would not be required.
- A permit application to SAHRA for archaeological test excavations to take place.
- Once the permit is received, limited archaeological test excavations may also be required, should a deposit be identified.
- An archaeological mitigation report must be compiled.
- A destruction permit application must be lodged with (SAHRA) to allow for the destruction of the site.

8.2.5 Required Mitigation Measures for a site comprising a Natural Boulder with Cupules and Stonewalling

Only one site is relevant to this section, namely site MMEP 3.

The impact significance calculations undertaken in Chapter 7 have shown that the significance of the unmitigated impact of the proposed development on the above-mentioned site is estimated to be of Moderate Significance. As a result, mitigation measures are required.

The following mitigation measure is required for the site:

- A social consultation process to assess whether any local residents or the wider public is aware of the site and can provide information for the improved interpretation of the site.
- The site must be archaeologically recorded by way of a site layout plan, site photographs and the recording of the arrangement and layout of the cupules and grinding surfaces on the boulder.
- A mitigation report must be compiled which includes the findings of the social consultation process as well as the records, plans and photographs resulting from the archaeological recording of the site. This report must also provide recommendations as to whether any additional mitigation would be required for the site to be destroyed as part of the development.

8.2.6 Required Mitigation Measures for a Rain-Making Site

The site in question here is MMEP 57, which consist of a high density of Iron Age pottery fragments near the top of a steep-sided hill. This site has been interpreted as a rain-making site.

The impact significance calculations undertaken in Chapter 7 have shown that the significance of the unmitigated impact of the proposed development on the above-mentioned site is estimated to be of High Significance. As a result, mitigation measures are required.

As the rain-making site is deemed to be of Medium to High Heritage Significance, it is recommended that the development footprint be modified to allow for the *in situ* preservation of this site. It is also recommended that a concerted effort be made to adhere to this recommendation. However, should it not prove possible to amend the development footprint, despite a concerted effort to the contrary, the following mitigation measures are required:

- An archaeological site layout plan must be compiled using accepted archaeological techniques.
- A permit application must be submitted to SAHRA for archaeological mitigation to take place. Such mitigation may include test excavations and surface collection.
- Once the permit is received, the archaeological mitigation measures can be undertaken. Such mitigation would be aimed at better understanding such rain-making sites.
- The archaeological research must be underpinned by a social consultation process to assess whether any local residents or the wider public is aware of the site and can provide information for the improved interpretation of the site.

- An archaeological mitigation report must be compiled.
- If no alternatives for the preservation of the site can be found, a destruction permit application must be lodged with (SAHRA) to allow for the destruction of the site. It is presently certain that such a permit application would succeed.

It would be advisable to also undertake archaeological research and site-focussed social consultation even if the site can be preserved *in situ* as this would assist in better understanding Iron Age rain-making sites.

8.2.7 Required Mitigation Measures for a Historic Farmstead associated with a Historic Black Homestead and Graves

Site MMEP 57 consists of a historic farmstead associated with a historic black homestead as well as graves. The historic farmstead may very well be older than 100 years.

The impact significance calculations undertaken in Chapter 7 have shown that the significance of the unmitigated impact of the proposed development on the above-mentioned site is estimated to be of High Significance. As a result, mitigation measures are required.

As a site containing both a historic farmstead of archaeological age as well as graves and a historic black homestead, the site is deemed to be of Medium to High Heritage Significance. This site is also the only historic farmstead identified within the surrounding landscape. The following recommendations are made:

- It is therefore strongly recommended that the development footprint be modified to allow for the *in situ* preservation of this site.
- It is also recommended that a concerted effort be made to adhere to this recommendation. The fact that the site is located on the far western boundary of the development footprint area, should make adherence to this mitigation measure feasible.

8.2.8 Required Mitigation Measures for a site comprising a Rubbing Post

MMEP 38 comprises a rubbing post used by mammals to remove ectoparasites. Such rubbing posts are frequently associated with Later Stone Age sites containing engravings. Although no such engravings could be observed during the fieldwork, it is still possible for the boulder to contain such engravings which may have been deteriorated by the frequent rubbing by animals.

The impact significance calculations undertaken in Chapter 7 have shown that the significance of the unmitigated impact of the proposed development on the above-mentioned site is estimated to be of Moderate Significance. As a result, mitigation measures are required.

The following mitigation measure is required for the site:

- The site must be re-visited and archaeologically recorded by way of photographs and rubbings of the rubbing stone.
- Intensive archaeological walkthroughs must also be undertaken of the immediate surroundings of the site, to confirm the current assessment that no engravings or Stone Age sites are associated with the rubbing post.
- A mitigation report must be compiled which includes the findings of the archaeological recording and intensive walkthroughs. This report must also provide recommendations as to whether any additional mitigation would be required for the site to be destroyed as part of the development.

9 CONCLUSIONS AND RECOMMENDATIONS

Introduction

PGS Heritage (Pty) Ltd was appointed by SRK Consulting (Pty) Ltd to undertake a Phase 1 Heritage Impact Assessment (HIA) for the proposed Mogalakwena Mine Expansion Project, near Mokopane, Limpopo Province.

The study area is located on sections of the farms Overysel 815 LR, Zwartfontein 818 LR, Vaalkop 819 LR and Blinkwater 820 LR and falls under the Mapela Traditional Authority and the Mogalakwena Local Municipality, Limpopo Province.

Associated Reports and Processes

This heritage study is undertaken synchronously with other heritage studies for Mogalakwena Mine. One of these other studies currently undertaken is an assessment of the archaeological and heritage significance of the Mohlotlo Hills, situated in close proximity to some of the current development footprints. This study on the Mohlotlo Hills is expected to culminate in a heritage management plan and demarcation of an exclusion zone on and around the hills. The findings of this report will be integrated with the Mohlotlo Hills report. As a result, the present report does not contain any findings or recommendations from the associated report.

General Desktop Study

An archival and historical desktop study was undertaken to provide a historic framework for the project area and surrounding landscape. This was augmented by a study of available historical and archival maps and an assessment of previous archaeological and heritage studies completed for the area. The desktop study revealed that the surroundings of the study area is characterised by a

long and significant history, whereas previous archaeological and heritage studies from this area have revealed a number of archaeological and heritage sites from the surroundings.

Palaeontology

Dr. Lloyd Rossouw of Palaeo Field Services cc was commissioned to undertake a desktop Palaeontological Impact Assessment. His report and findings are attached in full in **Appendix C**.

Dr. Rossouw found that the study area partially incorporates an “...*outcrop area of the Chuniespoort Group of the early Proterozoic Transvaal Supergroup, which includes Malmani Subgroup dolomites and limestones that are considered to be of high palaeontological sensitivity, with a high likelihood that stromatolitic fossil assemblages may be present in most of the outcrop areas of this unit.*”

The palaeontological report recommends that the “...*proposed study area is exempted from further palaeontological assessment, except where the footprint is underlain by Malmani Subgroup sediments. Consequently, six different infrastructure / planned activities may be affected by > 1m deep excavations into unweathered Malmani Subgroup bedrock. This will require monitoring by a professional palaeontologist as part of a Phase 1 assessment in case of chance exposure of stromatolite fossil remains, while such excavations are still open.*”

Fieldwork

The fieldwork component of the study was aimed at identifying tangible remains of archaeological, historical and heritage significance. The fieldwork was undertaken by way of intensive walkthroughs of the proposed development footprint areas. The walkthroughs were focussed on those areas that are not disturbed, as the potential for identifying archaeological and heritage sites in the more undisturbed components of the study area are much higher. As a result, only limited fieldwork was undertaken in those components of the study area that are entirely disturbed.

The fieldwork was undertaken by two archaeological fieldwork teams over the course of a number of fieldwork trips. The two fieldwork teams were led by archaeologists Polke Birkholtz and Ilan Smeyatsky, and assisted by archaeological field assistants Derrick James and John Anderson. The fieldwork was undertaken from Monday, 25 February 2019 to 1 March 2019, 12 March 2019 to 14 March 2019 and Friday, 5 April 2019. Throughout the fieldwork, hand-held GPS devices were used to record the track logs showing the routes followed by the two archaeological fieldwork teams. All sites identified during the fieldwork were photographically and qualitatively recorded, and their respective localities documented using a hand-held GPS device.

The fieldwork resulted in the identification of a total of seventy-one (71) archaeological and heritage sites. These were numbered from MMEP 1 to MMEP 71. These identified sites comprised the following:

- Eleven sites containing confirmed graves and burial grounds. See MMEP 10, MMEP 13, MMEP 17, MMEP 18, MMEP 21, MMEP 24, MMEP 27, MMEP 31, MMEP 34, MMEP 36 and MMEP 66.
- Four sites containing possible graves. See sites MMEP 2, MMEP 22, MMEP 30 and MMEP 40.
- Two sites containing relocated burial grounds which may still contain graves. See sites MMEP 7 and MMEP 69.
- Twenty-eight black homesteads where the potential risk for the presence of unmarked stillborn graves exist. See sites MMEP 4, MMEP 11, MMEP 12, MMEP 14, MMEP 16, MMEP 19, MMEP 23, MMEP 26, MMEP 28, MMEP 29, MMEP 33, MMEP 35, MMEP 39, MMEP 41, MMEP 44, MMEP 45, MMEP 46, MMEP 51, MMEP 53, MMEP 54, MMEP 55, MMEP 59, MMEP 61, MMEP 62, MMEP 64, MMEP 68, MMEP 70 and MMEP 71.
- One historic farmstead which is certainly older than 60 years and quite likely older than 100 years as well. The farmstead site also comprises a historic black farmstead and a confirmed burial ground. See site MMEP 43.
- Twelve Stone Age sites. See sites MMEP 1, MMEP 5, MMEP 6, MMEP 8, MMEP 9, MMEP 15, MMEP 47, MMEP 48, MMEP 49, MMEP 52, MMEP 60 and MMEP 67.
- One possible rain-making site. This site is MMEP 57.
- One Late Iron Age stonewalled site. See site MMEP 50.
- Eight sites comprising historic to recent stonewalling. See sites MMEP 20, MMEP 25, MMEP 37, MMEP 42, MMEP 56, MMEP 58, MMEP 63 and MMEP 65.
- One site comprising a single lower grinding stone. See site MMEP 32.
- One site comprising a rock boulder associated with cupules and stonewalling. See site MMEP 3.
- One site comprising a rubbing post. See MMEP 38.

Impact Assessment and Mitigation

An overlay of the identified archaeological and heritage sites over the proposed development footprint areas was made, which was used to assess the impact of the proposed development on these identified archaeological and heritage sites. Both pre-mitigation and post-mitigation impact assessments were undertaken. Please refer Chapter 7 for the impact assessment calculations. A series of site-specific mitigation measures are outlined in Chapter 8 of this report.

General Recommendations

The following general recommendations are made:

- The authors are aware of non-tangible heritage sites which may be located within the study area. These include a sacred tree and sacred water site located near Sekuruwe, and which may be located within the Blinkwater TSF footprint area. Before commencement of the Pre-Construction Phase, social consultation will have to take place with members of Sekuruwe to ascertain the positions and nature of these sites. Should the mine become aware of the presence of any other similar non-tangible sites, similar social consultation must be undertaken to identify and include any such sites located within the present study area.
- Of the 35 archaeological and heritage sites identified within the Blinkwater TSF area, as many as 23 sites are located in close proximity to the Mochlotlo Hills. It is understood that the development footprint area for this component of the study area will be moved to the east, to reduce the impact on this high density of identified sites. Such an amendment of the development footprint area will be fully supported by the authors of this report.

Conclusions

On the condition that the general recommendations and mitigation measures outlined in this report are adhered to, and in cognisance of the assumptions and limitations contained in this report, no heritage reasons can be given for the development not to continue.

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10.3 Historical Topographic Maps

All the historic topographical maps used in this report were obtained from the Directorate: National

Geo-spatial Information of the Department of Rural Development and Land Reform in Cape Town.

10.4 Internet

www.angloboerwar.com

www.sahistory.org.za

www.sanbi.org

www.wikipedia.org

10.5 Google Earth

At least some of the aerial depictions of the study area were obtained using Google Earth.

Appendix A

Legislative Requirements – Terminology and Assessment Criteria

The identification, evaluation and assessment of any cultural heritage site, artefact or find in the South African context is required and governed by the following legislation -

- i. NEMA;
- ii. National Heritage Resources Act (NHRA) Act 25 of 1999; and
- iii. Minerals and Petroleum Resources Development Act (MPRDA) Act 28 of 2002.

The following sections in each Act refer directly to the identification, evaluation and assessment of cultural heritage resources.

- i. GNR 982 of 2014 (Government Gazette 38282) promulgated under the NEMA:
 - a) Basic Assessment Report (BAR) – Regulations 19 and 23
 - b) Environmental Scoping Report (ESR) – Regulation 21
 - c) Environmental Impacts Report (EIR) – Regulation 23
 - d) EMPr – Regulations 19 and 23
- ii. NHRA:
 - a) Protection of Heritage Resources – Sections 34 to 36; and
 - b) Heritage Resources Management – Section 38
- iii. MPRDA Regulations of 2014:
 - a) Environmental reports to be compiled for application of mining right – Regulation 48.

The NHRA stipulates that cultural heritage resources may not be disturbed without authorization from the relevant heritage authority. Section 34 (1) of the NHRA states that, “no person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority...”. The NEMA (Act No 107 of 1998) states that an integrated EMP should, (23 -2 (b)) “...identify, predict and evaluate the actual and potential impact on the environment, socio-economic conditions and cultural heritage”. In accordance with legislative requirements and EIA rating criteria, the regulations of the South African Heritage Resources Agency (SAHRA) and the Association of Southern African Professional Archaeologists (ASAPA) have also been incorporated to ensure that a comprehensive legally compatible HIA report is compiled.

Appendix B
Project team CV's

POLKE DOUSSY BIRKHOLTZ

Professional Heritage Specialist / Professional Archaeologist / Director PGS Heritage

Name: Polke Doussy Birkholtz

Date & Place of Birth: 9 February 1975 – Klerksdorp, North West Province, South Africa

Place of Tertiary Education & Dates Associated:

Institution: University of Pretoria

Qualification: BA (Cum Laude) - Bachelor of Arts Degree Specializing in Archaeology, History and Anthropology

Date: 1996

Institution: University of Pretoria

Qualification: BA Hons (Cum Laude) - Bachelor of Arts with Honours Degree Specializing in Archaeology

Date: 1997

Institution: National College of Photography

Qualification: Photography

Date: 1998

Qualifications:

- BA - Degree specialising in Archaeology, History and Anthropology
- BA Hons - Professional Archaeologist

Memberships:

Association of Southern African Professional Archaeologists (ASAPA)
Professional Member of the CRM Section of ASAPA

Overview of Post Graduate Experience:

1997 – 2000 – Member/Archaeologist – Archaeo-Info
2001 – 2003 – Archaeologist/Heritage Specialist – Helio Alliance
2000 – 2008 – Member/Archaeologist/Heritage Specialist – Archaeology Africa
2003 - Present – Director / Archaeologist / Heritage Specialist – PGS Heritage

Languages: English: Speak, Read & Write & Afrikaans: Speak, Read & Write

Total Years' Experience: 18 Years

Conference Papers:

- *Taking Small Steps in Augrabies Falls National Park. With Nico Schwartz and Lynne Simpson. South African National Parks: Towards Best Practice. Communities and Conservation. 15 – 19 May 2000. Berg en Dal Rest Camp, Kruger National Park.*

Books:

- *The Story of Voorspoed: A Historical and Archaeological appraisal of the Voorspoed Diamond Mining Company Limited (1906 -1912). Book written by Polke Birkholtz for De Beers Consolidated Mines.*

Experience Related to the Scope of Work:

- Polke has worked as a **HERITAGE SPECIALIST / ARCHAEOLOGIST / HISTORIAN** on more than 300 projects, and acted as **PROJECT MANAGER** on almost all of these projects. His experience include the following:
 - Development of New Sedimentation and Flocculation Tanks at Rand Water's Vereeniging Pumping Station, Vereeniging, Gauteng Province. Heritage Impact Assessment for *Greenline*.
 - EThekweni Northern Aqueduct Project, Durban, KwaZulu-Natal. Heritage Impact Assessment for *Strategic Environmental Focus*.
 - Johannesburg Union Observatory, Johannesburg, Gauteng Province. Heritage Inventory for *Holm Jordaen*.
 - Development at Rand Water's Vereeniging Pumping Station, Vereeniging, Gauteng Province. Heritage Impact Assessment for *Aurecon*.
 - Comet Ext. 8 Development, Boksburg, Gauteng Province. Phase 2 Heritage Impact Assessment for *Urban Dynamics*.
 - Randjesfontein Homestead, Midrand, Gauteng Province. Baseline Heritage Assessment with Nkosinathi Tomose for Johannesburg City Parks.
 - Rand Leases Ext. 13 Development, Roodepoort, Gauteng Province. Heritage Impact Assessment for *Marsh*.
 - Proposed Relocation of the Hillendale Heavy Minerals Plant (HHMP) from Hillendale to Fairbreeze, KwaZulu-Natal. Heritage Impact Assessment for *Goslar Environmental*.
 - Portion 80 of the farm Eikenhof 323 IQ, Johannesburg, Gauteng Province. Heritage Inventory for *Khare Incorporated*.
 - Comet Ext. 14 Development, Boksburg, Gauteng Province. Heritage Impact Assessment for *Marsh*.
 - Rand Steam Laundries, Johannesburg, Gauteng Province. Archival and Historical Study for *Impendulo and Imperial Properties*.
 - Mine Waste Solutions, near Klerksdorp, North West Province. Heritage Inventory for *AngloGold Ashanti*.
 - Consolidated EIA and EMP for the Kroondal and Marikana Mining Right Areas, North West Province. Heritage Impact Assessment for *Aquarius Platinum*.
 - Wilkoppies Shopping Mall, Klerksdorp, North West Province. Heritage Impact Assessment for *Centre for Environmental Management*.
 - Proposed Vosloorus Ext. 24, Vosloorus Ext. 41 and Vosloorus Ext. 43 Developments, Ekurhuleni District Municipality, Gauteng Province. Heritage Impact Assessment for *Enkanyini Projects*.
 - Proposed Development of Portions 3, 6, 7 and 9 of the farm Olievenhoutbosch 389 JR, City of Tshwane Metropolitan Municipality, Gauteng Province. Heritage Impact Assessment for *Marsh*.
 - Proposed Development of Lotus Gardens Ext. 18 to 27, City of Tshwane Metropolitan Municipality, Gauteng Province. Heritage Impact Assessment for *Pierre Joubert*.
 - Proposed Development of the site of the old Vereeniging Hospital, Vereeniging, Gauteng Province. Heritage Scoping Assessment for *Lekwa*.
 - Proposed Demolition of an Old Building, Kroonstad, Free State Province. Phase 2 Heritage Impact Assessment for *De Beers Consolidated Mines*.
 - Proposed Development at Westdene Dam, Johannesburg, Gauteng Province. Heritage Impact Assessment for *Newtown*.

- West End, Central Johannesburg, Gauteng Province. Phase 1 Heritage Impact Assessment for the *Johannesburg Land Company*.
 - Kathu Supplier Park, Kathu, Northern Cape Province. Heritage Impact Assessment for *Synergistics*.
 - Matlosana 132 kV Line and Substation, Stilfontein, North West Province. Heritage Impact Assessment for *Anglo Saxon Group* and *Eskom*.
 - Marakele National Park, Thabazimbi, Limpopo Province. Cultural Resources Management Plan for *SANParks*.
 - Cullinan Diamond Mine, Cullinan, Gauteng Province. Heritage Inventory for *Petra Diamonds*.
 - Highveld Mushrooms Project, Pretoria, Gauteng Province. Heritage Impact Assessment for *Mills & Otten*.
 - Development at the Reserve Bank Governor's Residence, Pretoria, Gauteng Province. Archaeological Excavations and Mitigation for the *South African Reserve Bank*.
 - Proposed Stones & Stones Recycling Plant, Johannesburg, Gauteng Province. Heritage Scoping Report for *KV3*.
 - South East Vertical Shaft Section of ERPM, Boksburg, Gauteng Province. Heritage Scoping Report for *East Rand Proprietary Mines*.
 - Soshanguve Bulk Water Replacement Project, Soshanguve, Gauteng Province. Heritage Impact Assessment for *KWP*.
 - Biodiversity, Conservation and Participatory Development Project, Swaziland. Archaeological Component for *Africon*.
 - Camdeboo National Park, Graaff-Reinet, Eastern Cape Province. Cultural Resources Management Plan for *SANParks*.
 - Main Place, Central Johannesburg, Gauteng Province. Phase 1 Heritage Impact Assessment for the *Johannesburg Land Company*.
 - Modderfontein Mine, Springs, Gauteng Province. Detailed Archival and Historical Study for *Consolidated Modderfontein Mines*.
 - Proposed New Head Office for the Department of Foreign Affairs, Pretoria, Gauteng Province. Heritage Impact Assessment for *Holm Jordaan Group*.
 - Proposed Modification of the Lukasrand Tower, Pretoria, Gauteng Province. Heritage Assessment for *IEPM*.
 - Proposed Road between the Noupoot CBD and Kwazamukolo, Northern Cape Province. Heritage Impact Assessment for *Gill & Associates*.
 - Proposed Development at the Johannesburg Zoological Gardens, Johannesburg, Gauteng Province. Detailed Archival and Historical Study for *Matakoma*.
- Polke's **KEY QUALIFICATIONS:**
 - Project Management
 - Archaeological and Heritage Management
 - Archaeological and Heritage Impact Assessment
 - Archaeological and Heritage Fieldwork
 - Archival and Historical Research
 - Report Writing
- Polke's **INFORMATION TECHNOLOGY EXPERIENCE:**
 - *MS Office – Word, Excel, & Powerpoint*
 - *Google Earth*
 - *Garmin Mapsource*
 - *Adobe Photoshop*
 - *Corel Draw*

I, Polke Doussy Birkholtz, hereby confirm that the above information contained in my CV is true and correct.



PD Birkholtz

1 December 2017
Date

ILAN SMEYATSKY

Professional Archaeologist

Personal Details

- **Name:** Ilan
- **Surname:** Smeyatsky
- **Identity Number:** 9109275072080

- **Date of Birth:** 27-09-1991
- **Citizenship:** South African
- **Gender:** Male
- **Marital Status:** Single
- **Languages Spoken:** English

Education History

2010-2013: BSc Bachelors Degree

University of the Witwatersrand, Johannesburg, South Africa

- Archaeology
- Psychology
- Statistics
- Research Design and Analysis
- 67% Pass (**2:1 Qualification**)

2014: BSc (Hons) in Archaeology

AWARDS:

- Received the 2014 Center of Excellence in Palaeoscience award - **Bursary to the value of ZAR 30000 ≈ \$2500**
- Received the Post-Graduate Merit Award in 2015 for academic merit for my Honours academic results - **Bursary to the value of ZAR 25000 ≈ \$1800**

University of the Witwatersrand, Johannesburg, South Africa

- Archaeology
- Excavation techniques
- Theory
- 69% Pass (**2:1 Qualification**)
- **Distinction** received for thesis entitled: “Stylistic variation in Later Stone Age tanged arrowheads: a pilot study using geometric morphometrics”

2015-2017: MSc by Research (Archaeology)

University of the Witwatersrand, Johannesburg, South Africa

- Archaeology
- Statistical analysis
- GIS (Geographic Information Systems)
- Thesis entitled: “Discerning and explaining shape variations in Later Stone Age tanged arrowheads, South Africa”

Aug 2016 –

Jan 2017: Semester of Archaeology Masters

AWARD: Received the 2016 AESOP+ full Masters scholarship to study at Uppsala University, Uppsala, Sweden – **Scholarship to the value of ZAR 160,000 ≈ \$11,000**

Uppsala University, Uppsala, Sweden

- Archaeological theory
- GIS (Geographic Information Systems)
- Invitational research

Employment History

Part time employment as a student:

- **2009-2013:** Part-Time Electrician Apprentice: Assisting in home electrical repair jobs.
- **2014-2015:** Lab Research Assistant: Analysing and classifying lithic artefacts, Data capturing, Mentoring trainee research assistants.

Experience in the field of archaeology:

- **2013-2015: Fieldwork/Excavator - Responsibilities:** Feature detection, excavation, sieving, sorting, analysis, soil sampling, field documentation, 'dumpy' operation, Total Station operation, DGPS operation, rock art tracing and photography, engraving tracing and photography.
 - South African excavations:
 - Early Stone Age excavation at Maropeng World Heritage Site in Gauteng (1 Week – August 2015)
 - Pig cadaver exhumation as part of forensic experiment near Pretoria, Gauteng (1 Week – December 2014) - Praised for having the determination of returning for each subsequent excavation day as it was performed on a purely volunteer basis and the work conditions were particularly strenuous - Dr. Coen Nienaber
 - Iron Age excavation at Komati Gorge, Mpumalanga (1 Week – August 2014) - Praised for being exceptionally "methodical and proficient" with my excavation techniques – Dr. Alex Schoeman
 - Rock art fieldwork at Komati Gorge, Mpumalanga (1 Week – August 2014)
 - Underwater archaeology site mapping Komati Gorge, Mpumalanga (1 Week – August 2014)
 - Early Stone Age excavation at Maropeng World Heritage Site in Gauteng (2 Weeks - September 2013) - Personally uncovered some of the only stone tools (~1.8 million years old) found during that digging season.

- **2016: Excavation Supervisor - Responsibilities:** Supervision of two junior excavators, site detection, decision of excavation grid placement, excavation, sieving, sorting, soil sampling, field documentation.
 - Historical (farm site) excavation at Graaff-Reinet, Eastern Cape, South Africa (2 Weeks)
 - Completed dig 1 week ahead of schedule aided by my efficient direction, drive and support to the excavators under my supervision.
- **April 2017 – April 2018:** Intern Archaeologist – PGS Heritage: Heritage Impact assessments, background research, report writing, permit applications, collections management, stakeholder engagement and grave relocation.
- **April 2018 – PRESENT:** Archaeologist – PGS Heritage: Heritage Impact assessments, background research, report writing, permit applications, collections management, stakeholder engagement and grave relocation.

Professional Body Membership:

- Professional Archaeologist - Association of Southern African Professional Archaeologists (ASAPA) - Professional Member
- CRM Accreditation (ASAPA) -
Field Supervisor – Stone Age, Iron Age & Grave Relocations

Appendix C
Palaeontological Desktop Study

