Integrated Specialist Services (Pty) Ltd

PHASE 1 HIA FOR HIA/ARCHAEOLOGICAL IMPACT ASSESSMENT FOR THE PROPOSED PROSPECTING RIGHT APPLICATION FOR COPPER AND IRON ON PORTION 1, 2, 3 AND REMAINING EXTENT OF THE FARM BULTFONTEIN 327, REMAINING EXTENT AND PORTION 1 OF THE FARM SWAARTPAN 329 AND THE REMAINING EXTENT AND PORTION 1 OF THE FARM JANPLAATS 328 SITUATED IN THE MAGISTERIAL DISTRICT OF HAY, NORTHERN CAPE PROVINCE.

T Mlilo

GEOLOGICAL CONSULTING SERVICES

PTY LTD

PHASE 1 HIA FOR HIA/ARCHAEOLOGICAL IMPACT ASSESSMENT FOR THE PROPOSED PROSPECTING RIGHT APPLICATION FOR COPPER AND IRON ON PORTION 1, 2, 3 AND REMAINING EXTENT OF THE FARM BULTFONTEIN 327, REMAINING EXTENT AND PORTION 1 OF THE FARM SWAARTPAN 329 AND THE REMAINING EXTENT AND PORTION 1 OF THE FARM JANPLAATS 328 SITUATED IN THE MAGISTERIAL DISTRICT OF HAY, NORTHERN CAPE PROVINCE.

DOCUMENT SYNOPSIS (EXECUTIVE SUMMARY)

Item	Description
Proposed development and location	Prospecting for copper and iron on Portion 1, 2, 3 and Remaining Extent of the Farm Bultfontein 327, Remaining Extent and Portion 1 of the Farm Swaartpan 329 and the Remaining extent and Portion 1 of the Farm Janplaats 328 situated in the Magisterial District of Hay, Northern Cape Province.
Purpose of the study	The Phase 1 Archaeological Impact Assessment for the Prospecting Right Application in Northern Cape Province
1:50 000 Topographic Map	
Coordinates	See Figure 3
Municipalities	Magisterial District of Hay
Predominant land use of surrounding area	Mining and agriculture
Applicant	Tebogo Lawrence Josias Seheri
DMR	N30/5/1/1/3/2/1/13555EM
EAP	**Ndivhudzannyi Mofokeng** NDI Geological Consulting Services (Pty) Ltd Address: 38 Ophelia Street, Kimberley, 8301 Cell: 082 760 8420 Tell:053 842 0687 Fax: 086 538 1069 Email: atshidzaho@gmail.com/ndi@ndigeoservices.co.za
Heritage Practitioner	Integrated Specialist Services (Pty) Ltd Cell: 071 685 9247 Email: trust@issolutions.co.za
Authors	Trust Mlilo
Date of Report	August 2023

This report serves to inform and guide the applicant and contractors about the possible impacts that the proposed prospecting may have on heritage resources (if any) located in the study area. In the same light, the document must also inform South African heritage authorities (SAHRA) about the presence, absence and significance of heritage resources located within the proposed prospecting sites. This report is submitted in terms of Section 38 (8) of the National Heritage Resources Act 25 of 1999 as part of the Prospecting Right Application. The purpose of this study is to identify, record and if necessary, salvage the irreplaceable heritage resources that may be impacted by the proposed prospecting. In compliance with heritage legislation, NDI Geological Consulting Services (Pty) Ltd on behalf of Tebogo Lawrence Josias Seheri (Applicant) tasked Integrated Specialist Services (Pty) Ltd to conduct a Phase 1 Archaeological and Heritage Impact Assessment (AIA/HIA) for the proposed prospecting right application. Desktop studies, drive-throughs, and fieldwalking were conducted in order to identify heritage landmarks within the proposed prospecting site. The study site is not on pristine ground, having seen significant transformations owing to previous and current mining and agriculture activities. The study recorded burial sites within the direct path of the proposed prospecting site. The general prospecting area is known for occurrence of archaeological and historical sites. In terms of the built environment, the study noted farm buildings and structures that are most likely younger than 60 years old in the project area. It should be noted that archaeological material and unmarked graves may exist in the area and when encountered during prospecting, work must be stopped forthwith, and the finds must be reported to the South African Heritage Resource Agency (SAHRA) or the heritage practitioner. This report must be submitted to the SAHRA for review in terms of Section 38 (4) of the NHRA.

The report makes the following observations:

- The findings of this report have been informed by desktop data review, field survey and impact assessment reporting which include recommendations to guide heritage authorities in making decisions with regard to the proposed prospecting.
- Some sections of the proposed prospecting site are inaccessible; however, the field survey was effective enough to cover significant sections of the project receiving environs.
- The immediate project area is predominantly mining and agriculture.
- Some sections of the proposed prospecting right site are severely degraded from previous and current land use activities.

The report sets out the potential impacts of the proposed prospecting on heritage matters and recommends appropriate safeguard and mitigation measures that are designed to reduce the impacts where appropriate. The Report makes the following recommendations:

1. It is recommended that SAHRA endorse the report as having satisfied the requirements of Section 38 (8) of the NHRA requirements.
2. It is recommended that SAHRA make a decision in terms of Section 38 (4) of the NHRA to approve the proposed prospecting right application on condition that the identified burial site is treated as a NO GO Area during prospecting and 100m buffer zone must be provided for in terms of SAHRA Regulations of 2020.
3. The identified burial site must be properly mapped and marked during prospecting.
4. From a heritage perspective supported by the findings of this study, the Prospecting Right Application is supported. However, the prospecting should be approved under the observation that prospecting does not extend beyond the area considered in this report/affect the identified heritage sites.
5. Should chance archaeological materials or human remains be exposed during prospecting on any section of the site, work should cease on the affected area and the discovery must be reported to the heritage authorities immediately so that an investigation and evaluation of the finds can be made. The overriding objective, where remedial action is warranted, is to minimize disruption in prospecting scheduling while recovering archaeological and any affected cultural heritage data as stipulated by the NHRA regulations.
6. Subject to the recommendations herein made and the implementation of the mitigation measures and adoption of the project EMP, there are no significant cultural heritage resources barriers to the proposed prospecting right application. The Heritage authority may approve the Prospecting Right Application as planned with special commendations to implement the recommendations herein made.

This report concludes that the impacts of the proposed prospecting on the cultural environmental values are not likely to be significant on the entire site if the EMP includes the recommended safeguard and mitigation measures identified in this report.

NATIONAL LEGISLATION AND REGULATIONS GOVERNING THIS REPORT

This is a specialist report' and is compiled in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998), as amended, and the Environmental Impact Assessment Regulations, 2014.

DECLARATION OF INDEPENDENCE

In terms of Chapter 5 of the National Environmental Management Act of 1998 specialists involved in Impact Assessment processes must declare their independence.

I, **Trust Mlilo**, do hereby declare that I am financially and otherwise independent of the client and their consultants, and that all opinions expressed in this document are substantially my own, notwithstanding the fact that I have received fair remuneration from the client for the preparation of this report.

Expertise:

Trust Mlilo, PhD *cand* (Wits), MA. (Archaeology), BA Hons, PDGE and BA & (Univ. of Pretoria) ASAPA (Professional affiliation member) and more than 15 years of experience in archaeological and heritage impact assessment and management. Mlilo is an accredited member of the Association for Southern African Professional Archaeologists (ASAPA), Amafa akwaZulu Natali and Eastern Cape Heritage Resources Agency (ECPHRA). He has conducted more than hundred AIA/HIA Studies, heritage mitigation work and heritage development projects over the past 15 years of service. The completed projects vary from Phase 1 and Phase 2 as well as heritage management work for government, parastatals (Eskom) and several private companies such as BHP Billiton and Rhino Minerals.

Independence

The views expressed in this document are the objective, independent views of Mr Trust Mlilo and the survey was carried out under Integrated Specialist Services (Pty) Ltd. The company has no business, personal, financial, or other interest in the proposed prospecting apart from fair remuneration for the work performed.

Conditions relating to this report.

The content of this report is based on the author's best scientific and professional knowledge as well as available information. Integrated Specialist Services (Pty) Ltd reserves the right to modify the report in any way deemed fit should new, relevant or previously unavailable, or undisclosed information become known to the author from ongoing research or further work in this field or pertaining to this investigation.

This report must not be altered or added to without the prior written consent of the author and Integrated Specialist Services (Pty) Ltd. This also refers to electronic copies of the report which are supplied for the purposes of inclusion as part of other reports, including main reports. Similarly, any recommendations, statements or conclusions drawn from or based on this report must make reference to this report. If these form part of a main report relating to this investigation or report, this report must be included in its entirety as an appendix or separate section to the main report.

Authorship: This AIA/HIA Report has been prepared by Mr Trust Mlilo (Professional Archaeologist). The report is for the review of the Heritage Resources Agency (PHRA).

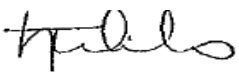
Geographic Co-ordinate Information**:** Geographic co-ordinates in this report were obtained using a hand-held Garmin Global Positioning System device. The manufacturer states that these devices are accurate to within +/- 5 m.

Maps**:** Maps included in this report use data extracted from the NTS Map and Google Earth Pro.

Disclaimer**:** The Authors are not responsible for omissions and inconsistencies that may result from information not available at the time this report was prepared.

The Archaeological and Heritage Impact Assessment Study was carried out within the context of tangible and intangible cultural heritage resources as defined by the SAHRA Regulations and Guidelines as to the approval of the Prospecting Right Application being submitted by Tebogo Lawrence Josias Seheri.

Signed by



15/ 08/ 2023

ACKNOWLEDGEMENTS

The author acknowledges NDI Geological Consulting Services (Pty) Ltd for their assistance with the project details and for responding to technical queries related to the project.

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ABBREVIATIONS

AIA Archaeological Impact Assessment

ASAPA Association of South African Professional Archaeologists

EIA Environmental Impact Assessment

EIA Early Iron Age *(EIA refers to both Environmental Impact Assessment and the Early Iron Age but in both cases the acronym is internationally accepted.*

EIAR Environmental Impact Assessment Report

ESA Early Stone Age

GPS Global Positioning System

HIA Heritage Impact Assessment

ICOMOS International Council of Monuments and Sites

LIA Late Iron Age

LFC Late Farming Community

LSA Late Stone Age

MIA Middle Iron Age

MSA Middle Stone Age

NEMA National Environmental Management Act 107 of 1998

NHRA National Heritage Resources Act 25 of 1999

PHRA Provincial Heritage Resource Agency

SAHRA South African Heritage Resources Agency

ToR Terms of Reference

KEY CONCEPTS AND TERMS

Periodization

Periodization Archaeologists divide the different cultural epochs according to the dominant material finds for the different time periods. This periodization is usually region-specific, such that the same label can have different dates for different areas. This makes it important to clarify and declare the periodization of the area one is studying. These periods are nothing a little more than convenient time brackets because their terminal and commencement are not absolute and there are several instances of overlap. In the present study, relevant archaeological periods are given below.

Early Stone Age (~ 2.6 million to 250 000 years ago)

Middle Stone Age (~ 250 000 to 40-25 000 years ago)

Later Stone Age (~ 40-25 000, to recently, 100 years ago)

Early Iron Age (~ AD 200 to 1000)

Late Iron Age (~ AD1100-1840)

Historic (~ AD 1840 to 1950, but a Historic building is classified as over 60 years old)

Definitions

Definitions Just like periodization, it is also critical to define key terms employed in this study. Most of these terms derive from South African heritage legislation and its ancillary laws, as well as international regulations and norms of best practice. The following aspects have a direct bearing on the investigation and the resulting report:

Cultural (heritage) resources are all non-physical and physical human-made occurrences, and natural features that are associated with human activity. These can be singular or in groups and include significant sites, structures, features, ecofacts and artefacts of importance associated with the history, architecture, or archaeology of human development.

Cultural significance is determined by means of aesthetic, historic, scientific, social, or spiritual values for past, present, or future generations.

Value is related to concepts such as worth, merit, attraction or appeal, concepts that are associated with the (current) usefulness and condition of a place or an object. Although significance and value are not mutually exclusive, in some cases the place may have a high level of significance but a lower level of value. Often, the evaluation of any feature is based on a combination or balance between the two.

Isolated finds are occurrences of artefacts or other remains that are not in-situ or are located apart from archaeological sites. Although these are noted and recorded, but do not usually constitute the core of an impact assessment, unless if they have intrinsic cultural significance and value.

In-situ refers to material culture and surrounding deposits in their original location and context, for example an archaeological site that has not been disturbed by farming.

Archaeological site/materials are remains or traces of human activity that 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. According to the National Heritage Resources Act (NHRA) (Act No. 25 of 1999), no archaeological artefact, assemblage or settlement (site) and no historical building or structure older than 60 years may be altered, moved or destroyed without the necessary authorisation from the South African Heritage Resources Agency (SAHRA) or a provincial heritage resources authority.

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

Chance finds means archaeological artefacts, features, structures or historical remains accidentally found during development.

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

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

Heritage Impact Assessment (HIA) refers to the process of identifying, predicting and assessing the potential positive and negative cultural, social, economic and biophysical impacts of any proposed project which requires authorisation of permission by law, and which may significantly affect the cultural and natural heritage resources. Accordingly, an HIA must include recommendations for appropriate mitigation measures for minimising or circumventing negative impacts, measures enhancing the positive aspects of the proposal and heritage management and monitoring measures.

Impact is the positive or negative effects on human well-being and / or on the environment.

Mitigation is the implementation of practical measures to reduce and circumvent adverse impacts or enhance beneficial impacts of an action.

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

Study area or '**project area'** refers to the area where the developer wants to focus its development activities (refer to plan).

Phase I studies refer to surveys using various sources of data and limited field walking in order to establish the presence of all possible types of heritage resources in any given area.

Assumptions and disclaimer

The investigation has been influenced by the unpredictability of buried archaeological remains (absence of evidence does not mean evidence of absence) and the difficulty in establishing intangible heritage values. It should be remembered that archaeological deposits (including graves and traces of mining heritage) usually occur below the ground level. Should artefacts or skeletal material be exposed during prospecting activities, such activities should be halted immediately, and a competent heritage practitioner and SAHRA must be notified in order for an investigation and evaluation of the find(s) to take place (see NHRA (Act No. 25 of 1999), Section 36 (6). Recommendations contained in this document do not exempt the applicant from complying with any National, Provincial, and Municipal legislation or other regulatory requirements, including any protection or management or general provision in terms of the NHRA. Integrated Specialist Services (Pty) Ltd assumes no responsibility for compliance with conditions that may be required by SAHRA in terms of this report.

1 INTRODUCTION

Integrated Specialist Services (Pty) Ltd was retained by NDI Geological Consulting Services (Pty) Ltd on behalf of Tebogo Lawrence Josias Seheri to carry out a Phase 1 AIA/ HIA for the prospecting for copper and iron on Portion 1, 2, 3 and Remaining Extent of the Farm Bultfontein 327, Remaining Extent and Portion 1 of the Farm Swaartpan 329 and the Remaining extent and Portion 1 of the Farm Janplaats 328 situated in the Magisterial District of Hay, Northern Cape Province. This study was conducted to fulfil the requirements of Section 38 (8) of the NHRA. The purpose of this heritage study is to identify, assess any heritage resources that may be located within the proposed prospecting site in order to make recommendations for their appropriate management. To achieve this, we conducted background research of published literature, maps, and databases (desktop studies) which was then followed by ground-truthing by means of drive-through surveys and field walking. Desktop studies revealed that the general project area is rich in Late Stone Age (LSA) and historical sites. It should be noted that while heritage resources may have been located in the entire study area, subsequent developments previous and agriculture, settlements, road and boundary fence lines have either obliterated these materials or reduced them to isolated finds that can only be identifiable as chance finds during prospecting. The proposed Prospecting Right Application may be approved subject to adopting recommendations and mitigation measures proposed in this report. Based on the findings there is no archaeological and heritage reasons why the Proposed Prospecting Right Application cannot be approved, taking full cognizance of clear procedures to follow in the event of chance findings. The identified burial site can be avoided without compromising the prospecting plan.

1.1 Terms of Reference (ToR)

The Integrated Specialist Services (Pty) Ltd was requested by NDI Geological Consulting Services (Pty) Ltd to conduct an AIA/HIA study addressing the following issues:

- Archaeological and heritage potential of the proposed prospecting site including any known data on affected areas.
- Provide details on methods of study; potential and recommendations to guide the SAHRA to make an informed decision in respect of authorisation of the Prospecting Right Application.
- Identify all objects, sites, occurrences and structures of an archaeological or historical nature (cultural heritage sites) located within the proposed prospecting site;
- Assess the significance of the cultural resources in terms of their archaeological, historical, scientific, social, religious, aesthetic and tourism value;
- Describe the possible impact of the prospecting on these cultural remains, according to a standard set of conventions;
- Propose suitable mitigation measures to minimize possible negative impacts on the cultural resources; and
- Review applicable legislative requirements.

1.2 Project Location

The site is located on Portion 1, 2, 3 and Remaining Extent of the Farm Bultfontein 327, Remaining Extent and Portion 1 of the Farm Swaartpan 329 and the Remaining extent and Portion 1 of the Farm Janplaats 328 situated in the Magisterial District of Hay, Northern Cape Province. The project site is located approximately 32km West of Niekerkshoop and +/_40 km northwest of Prieska.

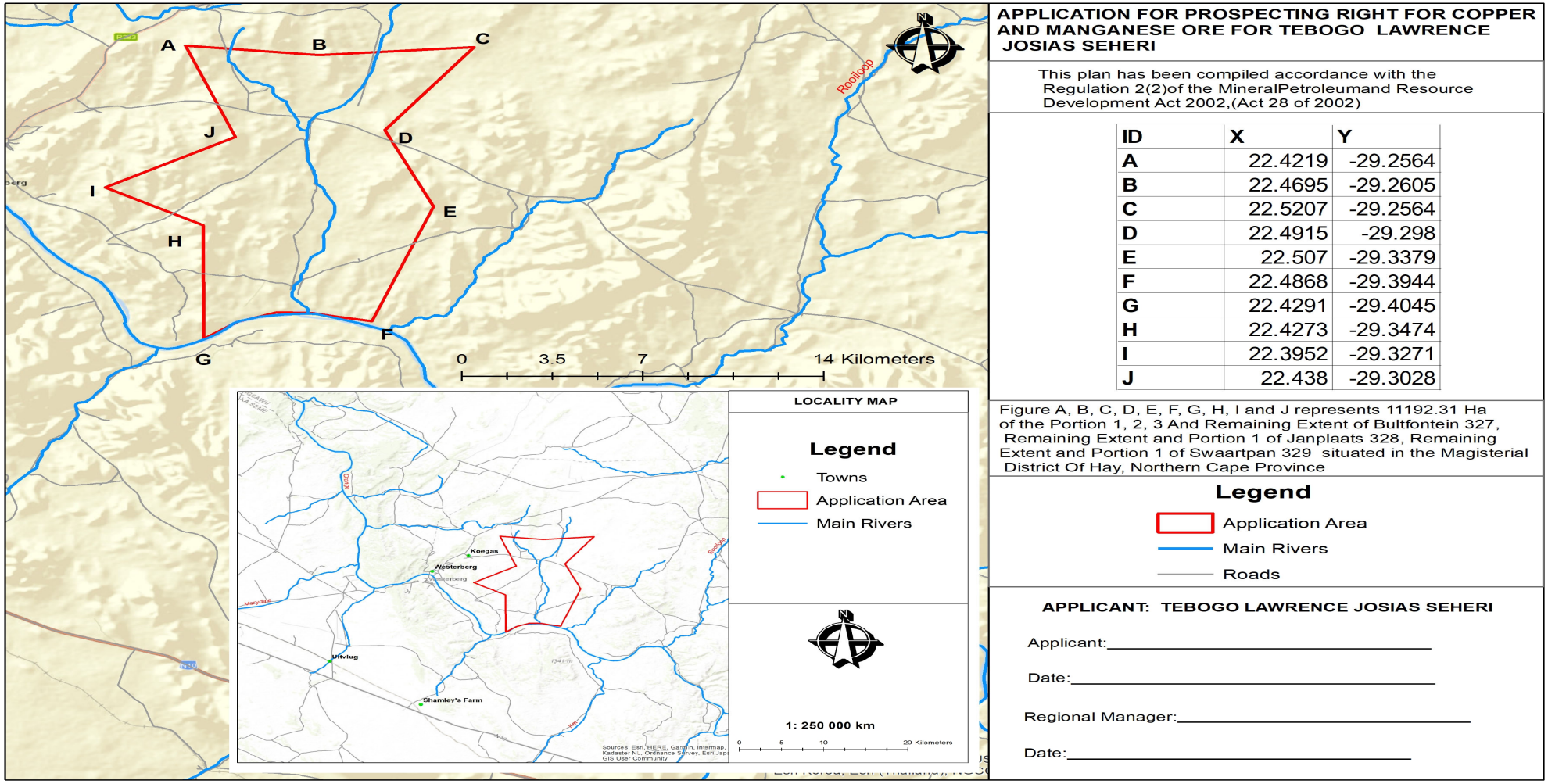

Figure 1: Location of the proposed project site (NDI Geological Consulting Services (Pty) Ltd, 2023)

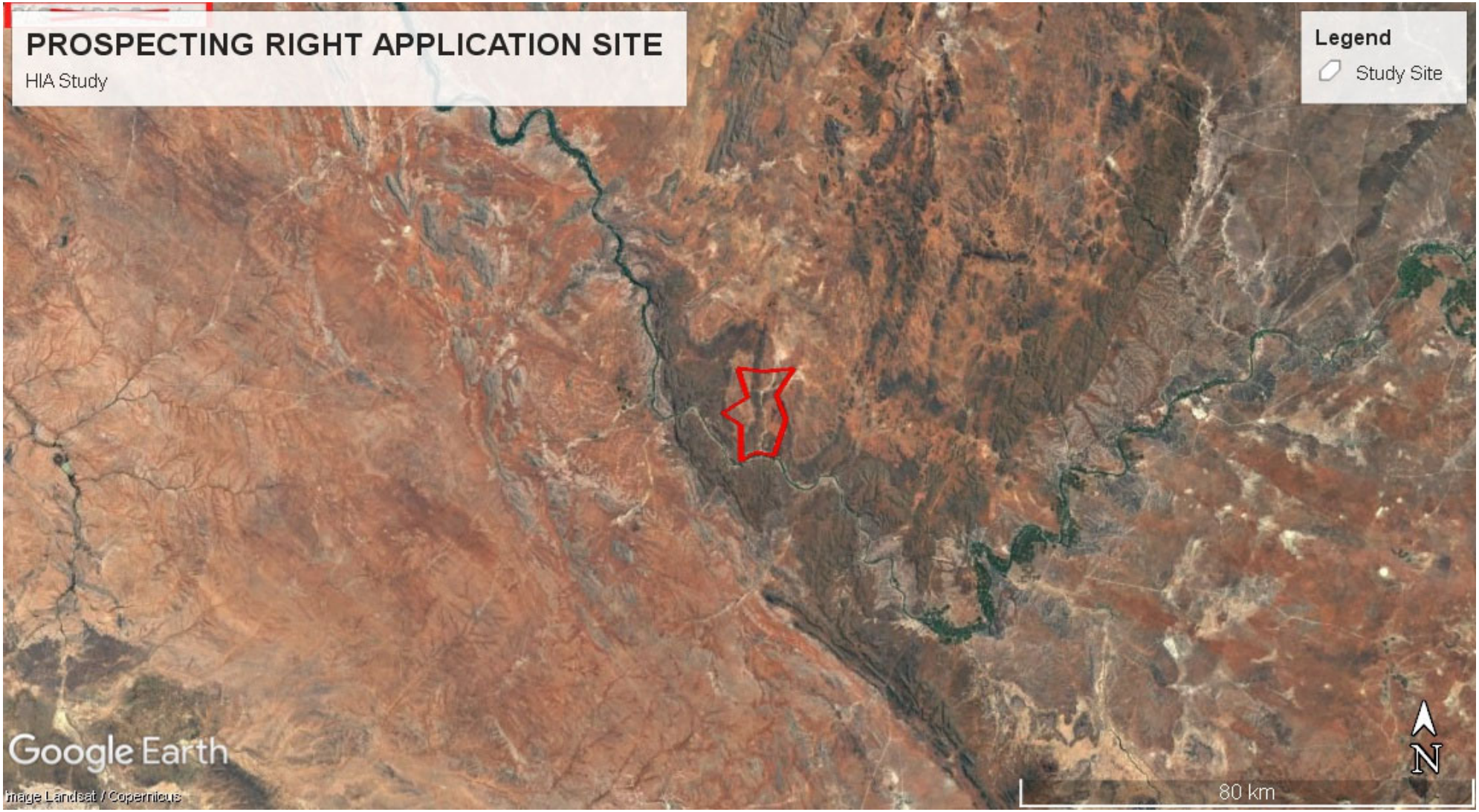

Figure 2: Location of the proposed project site (Author, 2023)

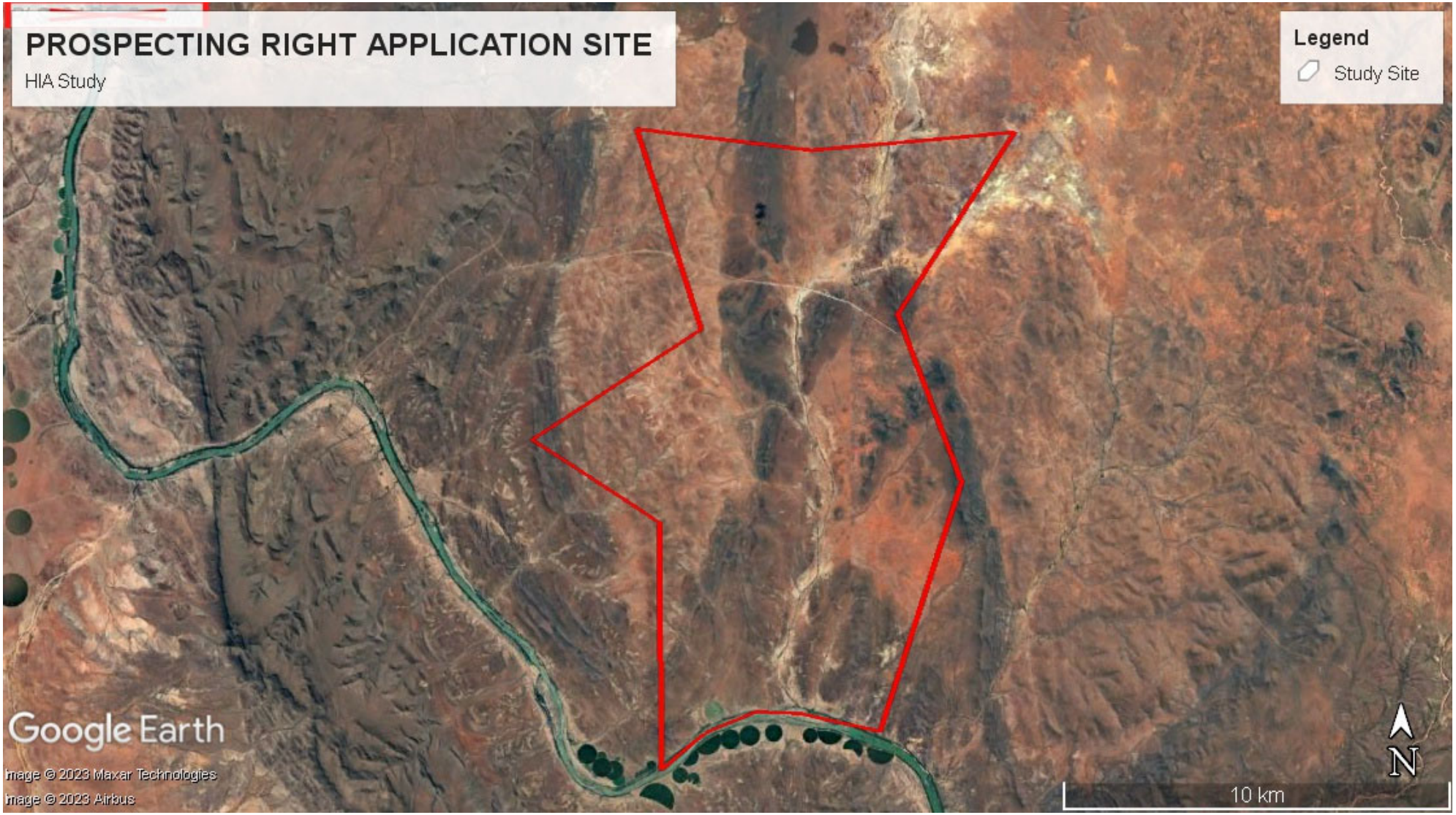

Figure 3: Locality map of the proposed prospecting right application site. (Author, 2023)

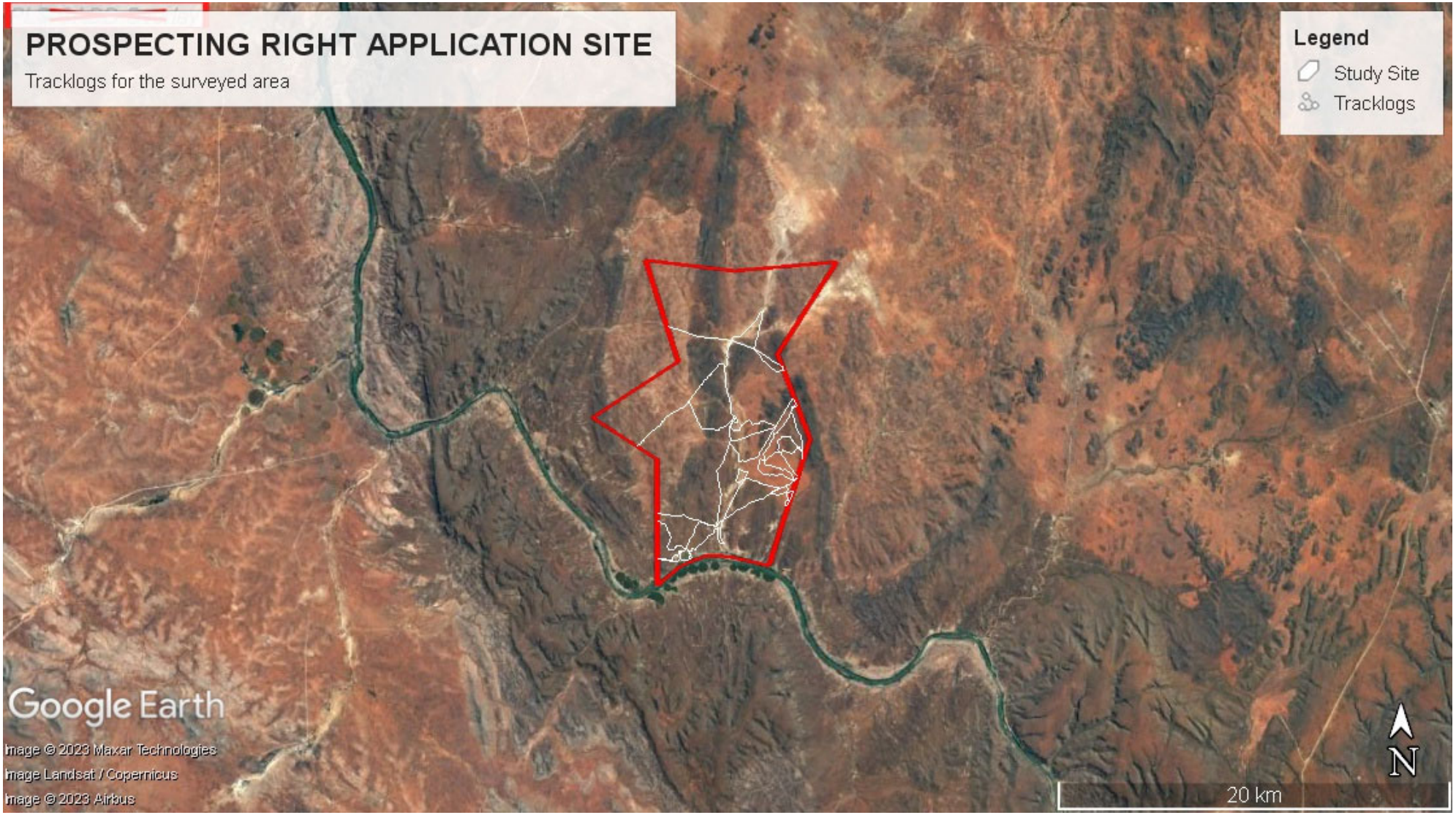

Figure 4: Tracklogs of surveyed area within the proposed prospecting right application site (Author, 2023)

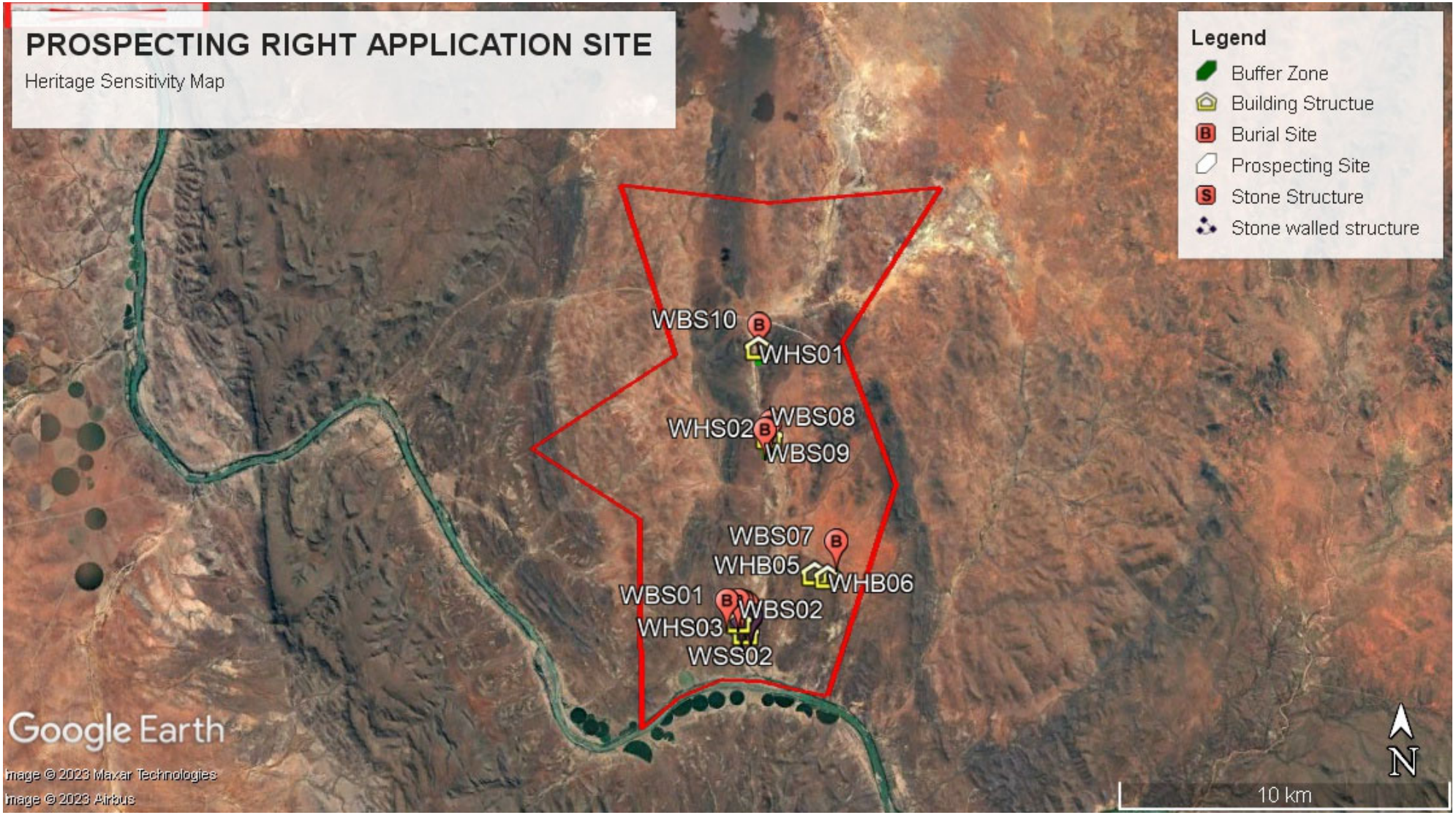

Figure 5: Sensitivity map and heritage findings within the proposed development site (Author, 2023)

1.3 Project Background

Prospecting Right Application has been submitted for the exploration of copper and iron on the properties mentioned above. The project area is located under the Magisterial District of Hay in the Northern Cape Province. The proposed prospecting right application project will cover an area of 12 390.30 ha. Prospecting and evaluation activities will be undertaken over a period of two (2) years and are designed in phases, each phase conditional on the success of the previous phase. Both invasive and non-invasive methods will be implemented. Desktop study of the area has commenced, and this incorporates desktop geographical and geological mapping. This will be followed by detailed geochemical and geotechnical surveys. In turn, this is followed by detailed geophysical studies and later, a detailed drilling, sampling, assaying and mineralogical study. Core drilling methods will be utilised to prospect in situ ore deposits. To ensure or minimise impacts on the receiving environment, All the activities will be guided by the project's EMPr.

2 LEGISLATIVE CONTEXT

Three main pieces of legislations are relevant to the present study. The proposed Prospecting Right Application is submitted in terms of the National Environmental Management Act, 1998 (NEMA) and the 2017 EIA Regulations for activities that trigger the Mineral and Petroleum Resources Development Act, 2002 (MPRDA) (As amended). Therefore, this is in fulfilment of the assessment of the impact to heritage resources as required by section 24(4)(b)(iii) of NEMA and section 38(8) of the National Heritage Resources Act, Act 25 of 1999 (NHRA). An AIA or HIA is required as a specialist sub-section of the Basic Assessment (BA) process. This study was conducted in terms of Section 38(8) as part of environmental authorisation. The provisions of this section do not apply to a development as described in subsection (1) if an evaluation of the impact of such development on heritage resources is required in terms of the Environment Conservation Act, 1989 (Act No. 73 of 1989), or the integrated environmental management guidelines issued by the Department of Environment Affairs and Tourism, or the Minerals Act, 1991 (Act No. 50 of 1991), or any other legislation: Provided that the consenting authority must ensure that the evaluation fulfils the requirements of the relevant heritage resources authority in terms of subsection (3), and any comments and recommendations of the relevant heritage resources authority with regard to such development have been taken into account prior to the granting of the consent.

Thus, any person undertaking any development in the above categories, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development. Section 38 (2) (a) of the same act also requires the submission of a heritage impact assessment report for authorization purposes to the responsible heritage resources agencies (SAHRA/PHRAs). Because the proposed development will change the character of a site exceeding 5000 m², then an HIA is required according to this section of the Act.

Related to Section 38 of the NHRA are Sections 34, 35, 36 and 37. Section 34 stipulates that no person may **alter damage, destroy and relocate any building or structure older than 60 years, without a permit issued by SAHRA or a provincial heritage resources authority**. This section may not apply to present study since none were identified. Section 35 (4) of the NHRA stipulates that no person may, without a permit issued by SAHRA, destroy, damage, excavate, alter, or remove from its original position, or collect, any archaeological material or object. This section may apply to any significant archaeological sites that may be discovered before or during construction. This means that any chance find must be reported to the heritage practitioner or SAHRA/PHRA, who will assist in investigating the extent and significance of the finds and inform the applicant about further actions. Such actions may entail the removal of material after documenting the find site or mapping of larger sections before destruction. Section 36 (3) of the NHRA also stipulates that no person may, without a permit issued by the South African Heritage Resources Agency (SAHRA), destroy, damage, alter, exhume or remove from its original position or otherwise disturb any grave or burial ground older than 60 years, which is situated outside a formal cemetery administered by a local authority. This section may apply in case of the discovery of chance burials, which is unlikely. The procedure for reporting chance finds also applies to the unlikely discovery of burials or graves by the applicant

or his contractors. Section 37 of the NHRA deals with public monuments and memorials but this may not apply to this study because no protected monument will be physically affected by the proposed prospecting.

In addition, the EIA Regulations of 2014 (as amended in 2017) promulgated in terms of NEMA (Act 107 of 1998) stated that environmental assessment reports will include cultural (heritage) issues. The new regulations in terms of Chapter 5 of the NEMA provide for an assessment of development impacts on the cultural (heritage) and social environment and for Specialist Studies in this regard. The end purpose of such a report is to alert the applicant (Tebogo Lawrence Josias Seheri), SAHRA/ PHRA and interested and affected parties about existing heritage resources that may be affected by the proposed prospecting, and to recommend mitigatory measures aimed at reducing the risks of any adverse impacts on these heritage resources.

Table 1: Evaluation of the proposed development as guided by the criteria in NHRA and NEMA

ACT	Stipulation for developments	Requirement details
NHRA Section 38(8)	The provisions of this section do not apply to a development as described in subsection (1) if an evaluation of the impact of such development on heritage resources is required in terms of the Environment Conservation Act, 1989 (Act No. 73 of 1989), or the integrated environmental management guidelines issued by the Department of Environment Affairs and Tourism, or the Minerals Act, 1991 (Act No. 50 of 1991), or any other legislation: Provided that the consenting authority must ensure that the evaluation fulfils the requirements of the relevant heritage resources authority in terms of subsection (3), and any comments and recommendations of the relevant heritage resources authority with regard to such development have been taken into account prior to the granting of the consent	yes
NHRA Section 34	Impacts on buildings and structures older than 60 years	Subject to identification during Phase 1
NHRA Section 35	Impacts on archaeological and palaeontological heritage resources	Subject to identification during Phase 1
NHRA Section 36	Impacts on graves	Subject to identification during Phase 1
NHRA Section 37	Impacts on public monuments	Subject to identification during Phase 1
Chapter 5 (21/04/2006) NEMA	HIA is required as part of an EIA	Yes
Section 39(3)(b) (iii) of the MPRDA	AIA/HIA is required as part of an EIA	Yes

3 METHODOLOGY

This document aims at providing an informed heritage-related opinion about the proposed Prospecting Right Application in the Northern Cape Province. This is usually achieved through a combination of a review of any existing literature and a site inspection. As part of the desktop study, published literature and cartographic data, as well as archival data on heritage legislation, the history and archaeology of the area were studied. The desktop study was followed by field surveys. The field assessment was conducted according to generally accepted AIA/HIA practices and aimed at locating all possible objects, sites, and features of cultural significance on the prospecting footprint. Initially a drive-through was undertaken around the proposed prospecting site as a way of acquiring the archaeological impression of the general area. This was then followed by a walk down survey in the study area, with a handheld Global Positioning System (GPS) for recording the location/position of each possible site. Detailed photographic recording was also undertaken where relevant. The findings were then analysed in view of the Prospecting Right Application in order to make recommendations to the competent authority. The result of this investigation is a report indicating the presence/absence of heritage resources and how to manage them in the context of the proposed prospecting.

3.1 The Fieldwork survey

The fieldwork survey was undertaken on the 15th of August 2023. The focus of the survey involved a pedestrian survey which was conducted within the proposed prospecting site. The pedestrian survey focused on parts of the project area where it seemed as if disturbances may have occurred in the past, for example bald spots in the grass veld; stands of grass which are taller that the surrounding grass veld; the presence of exotic trees; evidence of building rubble, existing buildings and ecological indicators such as invader weeds.

The literature survey suggests that prior to the 20th century modern agriculture activities; the general area would have been a rewarding region to locate heritage resources related to Stone Age and particularly Iron Age and historical sites (Bergh 1999: 4). However, the situation today is completely different. The study area now lies on a clearly modified landscape that is dominated by mainly mining and agriculture infrastructure (see Figure 1).

3.2 Visibility and Constraints

Surface visibility on most sections of the proposed prospecting site was compromised due to dense grass cover. It is conceded that due to the subterranean nature of cultural remains this report should not be construed as a record of all archaeological and historic sites in the area.

3.3 Consultations

The Basic Assessment (BA) Public Participation process is conducted by the EAP. The study team consulted farm owners who provided vital information about the heritage character of their area. The BA Public Participation Process will also invite and address comments from the public and any registered heritage bodies on any matter related to the proposed

Prospecting Right Application including heritage concerns that may arise relating to the mining activities. The heritage issues and concerns raised by the public will also be included in the Prospecting Right Application to be submitted to DMRE.

The following photographs illuminate the nature and character of the Project Area.

Plate 1: showing access road to the site earmarked for prospecting.

Plate 2: showing proposed proposed prospecting site.

Plate 3: showing access road to the proposed prospecting site.

Plate 4: showing proposed prospecting site.

Plate 5: showing the proposed prospecting right applicatioin site.

Plate 6: showing the site earmarked for prospecting.

Plate 7: showing high security fence around the proposed prospecting site.

Plate 8: showing the aerial view of the proposed prospecting site.

Plate 9: showing the proposed prospecting site.

Plate 10: showing the proposed prospecting right application site.

Plate 11: showing proposed prospecting right application site.

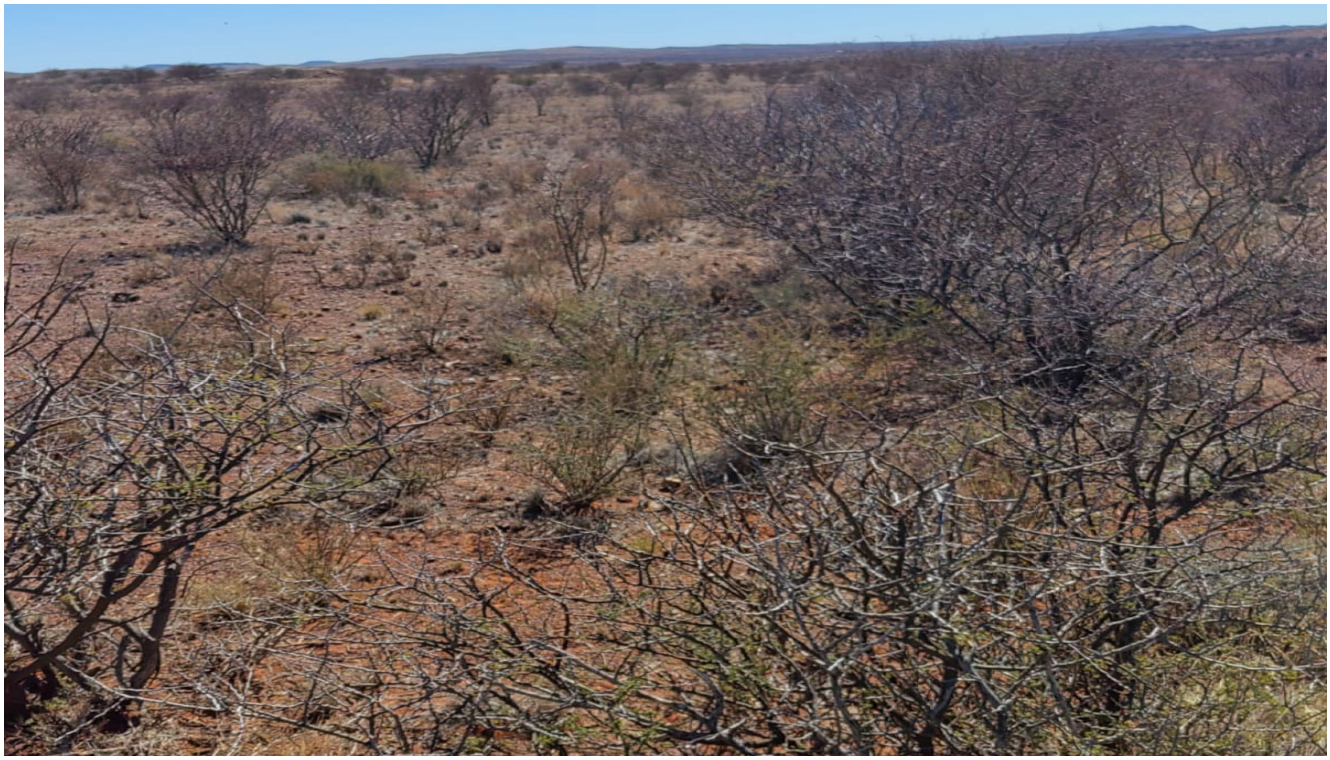

Plate 12: showing the proposed prospecting site.Note thorn bushes dotted around the proposed development site.

Plate 13: showing the rocky environwemt within the proposed development site.

Plate 14: showing the proposed prospecting site.

Plate 15: showing rocky environs wihtin the proposed prospecting site.

Plate 16: showing the proposed prospecting right application site.

Plate 17: showing the proposed prospecting site.

Plate 18: showing the site earmarked for prospecting.

4 ARCHAEOLOGICAL CONTEXT

Stone Age Archaeology

South Africa has one of the longest sequences of human development in the world. The prehistory and history of South Africa span the entire known life span of human on earth. It is thus difficult to determine exactly where to begin, a possible choice could be the development of genus *Homo* millions of years ago. South African scientists have been actively involved in the study of human origins since 1925 when Raymond Dart identified the Taung child as an infant halfway between apes and humans. Dart called the remains *Australopithecus africanus*, southern ape-man, and his work ultimately changed the focus of human evolution from Europe and Asia to Africa, and it is now widely accepted that humankind originated in Africa (Robbins *et al.* 1998). In many ways this discovery marked the birth of palaeoanthropology as a discipline. Nonetheless, the earliest form of culture known in South Africa is the Stone Age. This prehistoric period during which humans widely used stone for toolmaking, stone tools were made from a variety of different sorts of stone. For example, flint and chert were shaped for use as cutting tools and weapons, while basalt and sandstone were used for ground stone. Stone Age can be divided into Early, Middle and Late; it is argued that there are two transitional periods. Noteworthy that the time frame used for Stone Age period is an approximate and differ from researcher to researcher (see Korsman & Meyer 1999, Mitchell 2002, Robbins *et al.* 1998)

Stone Age

Although a long history of research on the Early Stone Age period of southern Africa has been conducted (Mason 1962, Sampson 1974, Klein 2000, Chazan 2003), it remains a period where little is known about. These may be due to many factors which includes, though not limited to retrieval techniques used, reliance on secondary, at times unknown sources and the fact that few faunal remains from this period have been analysed (Chazan 2003). According to Robbins *et al.* (1998) the Stone Age is the period in human history when stone was mainly used to produce tools. This period began approximately 2.5 million years ago and ended around 20 000 years ago. During this period, human beings became the creators of culture and were basically hunters and gatherers, this era is identified by large stone artefacts.

The Middle Stone Age possibly began around 100 000 to about 200 000 years ago and extends up to around 35 000 years ago. This period is marked by smaller tools than in ESA and characterized by the production of food and the introduction of domestication of animals. Many MSA sites have evidence for control of fire, prior to this, rock shelters and caves would have been dangerous for human habitation due to predators. MSA people made a wide range of stone tools from both coarse- and fine-grained rock types. Sometimes the rocks used for tools were transported considerable distances, presumably in bags or other containers; as such tool assemblages from some MSA sites tend to lack some of the preliminary cores and contain predominantly finished products like flakes and retouched pieces.

Microlithic Later Stone Age period began around 35 000 and extend to the later 1800 AD. According to Deacon (1984), LSA is a period when human being refined small blade tools, conversely abandoning the prepared-core technique. Thus, refined artefacts such as convex-edge scrapers, borers and segments are associated with this period. Moreover, large quantity of

art and ornaments were made during this period. The practitioners of the Late Stone Age as with Rock Art are ancestors of the Khoisan. A number of rock engravings have been reported in the vicinity of Lime Acres and Danielskuil north of the Vaal River and at Wildebeest Kuil 16 km west of Kimberley.

Iron Age

The Iron Age is the name given to the period of human history when metal was mainly used to produce artefacts. Recently, they have been a debate about the use of the name. Other archaeologists have argued that the word "Iron Age" is problematic and does not precisely explain the event of what happen in southern Africa, as such, the word farming communities has been proposed (Segobye 1998). Nonetheless, in South Africa this period can be divided into two phases. Early (200 - 1000 A.D) and Late Iron Age (1000 - 1850 A.D). Huffman (2007) has indicated that a Middle Iron Age (900 - 1300 A.D) should be included. According to Huffman (2007:361), until the 1960s and 1970s most archaeologists had not yet recognised a Middle Iron age. Instead, they began the Late Iron Age at AD 1000. The Middle Iron Age (AD 900–1300) is characterised by extensive trade between the Limpopo Confluence and the East Coast of Africa. This has been debated, with other researchers, arguing that the period should be restricted to Shashe-Limpopo Confluence.

4.1. CONTEMPORARY HERITAGE

Southern Africa was networked with the literate world for several centuries, but the period of written history in the study area corresponds to the arrival of white travellers, hunters, missionaries and adventurers from the Cape in the 1800s. Notable amongst them include PJ Truter's, William Somerville, Robert Moffat, Andrew Smith and John Campbell. The first arrivals into the study area may be PJ Truter's and William Somerville who in 1801 reached Dithakong at Kuruman (Pelser 2012). Some of later travellers into this area kept diaries that today form part of invaluable history about indigenous communities whom they travellers interacted with (see Figure 4). European explorers such as Dr. Hinrich Lichtenstein (in 1805) and Dr. Andrew Smith (in 1835) reached Kuruman and met Tswana-speaking people (Bergh 1999). It should be noted that most of the early African-colonial interaction in this area centred around the nearly two-century old London Mission Society station at Kuruman, established by James Read in 1817 but popularized by Robert Moffat and his wife, three years later. Since the arrival of the Moffats in 1820, the mission has been known as The Moffat Mission Station (Figure 4, plate 14).

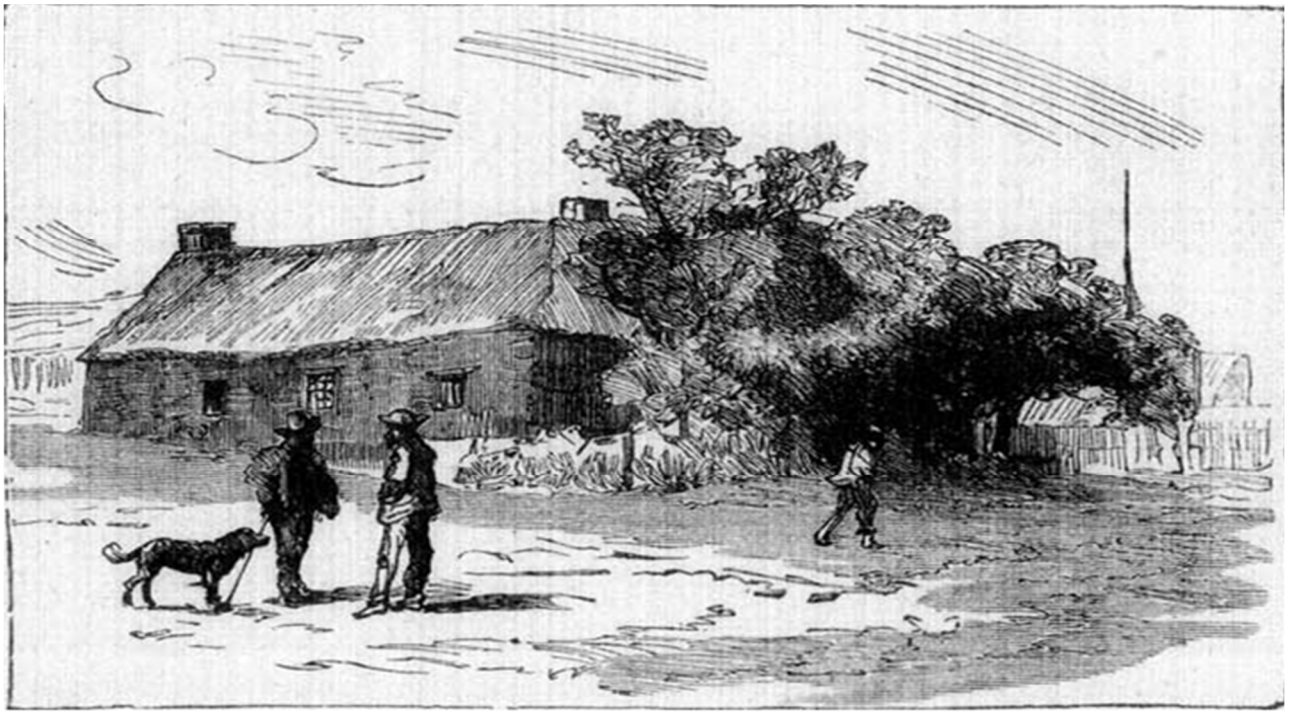

Plate 19: Photo 14: Photo A&B shows a drawing of the Old Mission House at Lattakoo which is now known as Kuruman (David J. Deane 2005. Robert Moffat: The Missionary Hero of Kuruman. March 16, 2005 [EBook #15379]http://www.gutenberg.org/files/15379/15379-h/15379-h.htm#CHAPTER_IV accessed 30 August 2015.

Besides the isolated incursions by traders, hunters, and missionaries permanent and mass-movement of white settlers only took root in the late 1800s with the arrival of Dutch speaking farmers (Voortrekkers) who were protesting and escaping British rule in the Cape Colony (Ross 2002: 39). Yet even this incursion was not permanent yet because by 1897 most of them white settlers around the Kuruman River had moved away (Fourie 2013). It took the great drought of 1907 and 1908 for many farmers of the then Cape Colony to move into these areas along the edge of the Kalahari Desert in search of better grazing for their cattle (Smit 1966). Nonetheless, significant urban development in this area has been focused around the 'Eye' and the water course springing from it leading to the evolution of the town of Kuruman, from the late nineteenth century (Morris 2010). When in 1885 Britain declared a Protectorate over Bechuanaland and the Kalahari (on 23 March) and then divided the Protectorate was divided into two parts (on 30 September 1885), the area south of the Molopo (including the study area) became the Crown Colony of British Bechuanaland with its capital at Vryburg (Fourie 2013) (Tlou and Campbell 1997). Ten years later this area was included in the Cape Colony accordance to Act 31 of 1895 (Smit 1966) and the Lower Kuruman Native Reserves well as a few other so-called native reserves were established by virtue of Bechuanaland Proclamation No. 220 of 1895. The study area lies on the fringes of this Lower Kuruman Native Reserve.

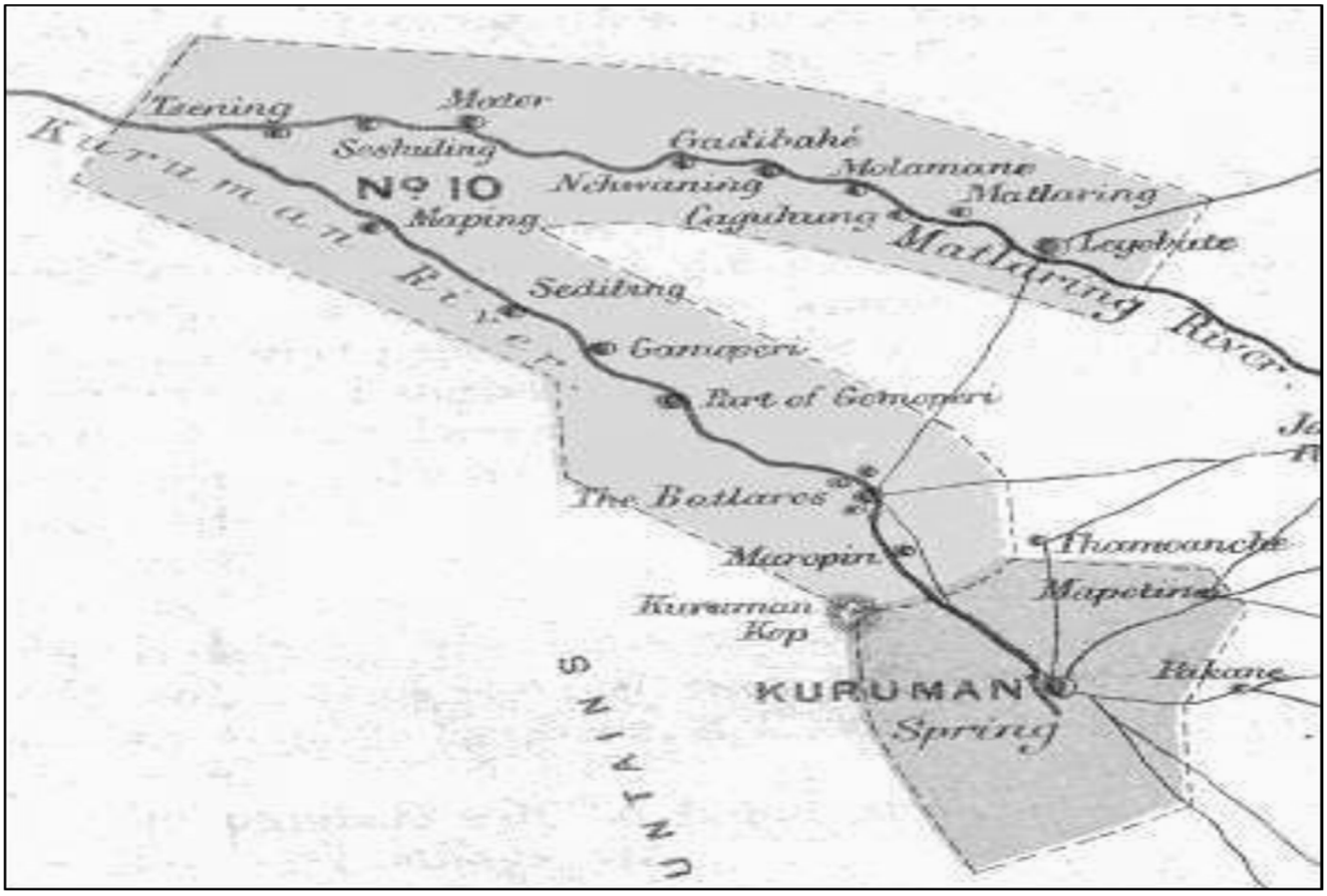

Figure 6: Map showing the original demarcation of the Lower Kuruman Native Reserve (Fourie 2013: 35)

Another impetus for the occupation of the Kuruman area was related to events that were ignited outside the African continent. Thus, when the First World War (1914-1918) broke out, and the South African Union Government joined the coalition forces and attacked German South West Africa (now Namibia). To sustain the Union troops along the way, a number of boreholes were sunk along the banks of the Kuruman River at places such as Eensaam, Kameelrus, Murray, Springputs and Van Zylsrus (Van der Merwe 1949; Smit 1966;). After the war, even more boreholes were sunk by the Department of Lands as opportunistic white farmers established themselves at these localities as borehole watchmen so that they could be allowed free grazing rights on the surrounding land (Smit 1966). All of this history produced heritage landmarks along the Kuruman River, but it is significant to note that none of these resources are located closer to the area of the proposed development. Parallel to the urban development is the history of manganese mining that the surrounding region is well known for today. Manganese is used in the manufacture of carbon steel and has been mined at such places as Hotazel and Black Rock (Fourie 2013). These mines are however, located out of the mining footprint and no mining heritage has been located within the proposed development site.

The town of Prieska developed from a place to which farmers migrated when the pans were full of water after rains. It attained municipal status in 1892. The name is derived from Korana and means “place of a lost she-goat”. The one industrial activity that is practised in the region on a commercial basis is the mining of copper at nearby Copperton. The

history of the development of mining activities at Copperton is graphically described by Hocking (n.d.). Although the existence of copper on the farm Vogelstruisbult was known since the early 20th century, little was done to exploit it. It was only during the late 1960s that the potential importance of the deposit was realised, and a number of shafts were sunk: the Marais and Hutchings shafts. To house the workers at the mine a residential area was developed and named Copperton. The mine was closed down in 1991.An investigation of the Title Deeds of most of the farms under consideration indicated that they were surveyed during the latter part of the nineteenth century, implying that they would have been occupied since then. Kaffirskolk was first surveyed in 1891 and Platsjambok was surveyed and granted to G.F. Rens on 26 October 1882.

The archaeology of the Northern Cape is rich and varied covering long spans of human history. According to Morris (2010), the vicinity near Prieska includes well known Middle and Later Stone Age (LSA) sites along the Orange River, and a small shelter on Prieska Kop. Morris (2010) also documented surface scatters of mostly Later Stone Age and some Middle Stone Age tools during an assessment for a proposed new cemetery at Prieska. At Bundu near Copperton (about 60 west of Prieska), a series of dried-up deflated pans have been excavated by Kiberd (2002, 2006). Pans would have acted as focal points for grazing animals, but also a source of water. A complex series of sedimentary features and horizons in these pans may be broadly coeval with periods of climatic change in the region (Kiberd 2006). Archaeological material was recovered from throughout the sedimentary sequence. Large numbers of Later Stone Age tools occur on the surface of the pan and within the upper red sands and include micro-lithic tools, while below the red sands, Middle Stone Age (MSA) lithics mainly in quartzite, and preserved fauna were found. Early Stone Age (ESA) tools, preserved fauna and even the possible discovery of an ESA hearth, which may be older than 300 000 years, was also excavated. Kaplan (2010) also undertook an archaeological impact assessment of a proposed solar power farm near Copperton, where large numbers of Later and Middle Stone Age material were documented.

Mining History

Van Schalkwyk (2015a) refers briefly to the history of the development of mining activities at Copperton. Although the existence of copper on the farm Vogelstruisbult was known since the early 20th century, little was done to exploit it. It was only during the late 1960s that the potential importance of the deposit was realised, and a number of shafts were sunk: the Marais and Hutchings shafts. To house the workers at the mine a residential area was developed and named Copperton. The mine was closed down in 1991 (Van Schalkwyk 2015a).

Intangible Heritage

As defined in terms of the UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage (2003) intangible heritage includes oral traditions, knowledge and practices concerning nature, traditional craftsmanship and rituals and festive events, as well as the instruments, objects, artefacts and cultural spaces associated with group(s) of people. Thus, intangible heritage is better defined and understood by the particular group of people that uphold it. In the present study area, very little intangible heritage is anticipated on the development footprint because most historical knowledge does not suggest a relationship with the study area, even though several other places in the general area such as Old Moffat Mission in Kuruman do have intangible heritage.

SAHRIS Database and Impact assessment reports in the proposed project area

Several archaeological and heritage impact studies were conducted for mining and infrastructure developments in the general area of the proposed mining right application site. These heritage impact studies conducted identified artefacts associated with the Stone Age. The occurrences ranged from single artefact find spots (Dreyer 2004, Dreyer 2006, Rossouw 2015), to low or medium density artefact scatters (Van Schalkwyk 2015a, Van Schalkwyk 2015b). The occurrence of rock engravings on dolerite boulders was also identified in the CTS screening study for the SHA (2016). An engraving site along the road between Copperton and Van Wyksvlei was noted from a previous study. The rock art comprises scraped engravings of eland and ostrich as well as very recent (historical) images of horses with riders, a chariot and some writing (Van Schalkwyk 2015a). The occurrences ranged from single artefact find spots (Dreyer 2004, Dreyer 2006, Rossouw 2015), to low or medium density artefact scatters (Van Schalkwyk 2015a, Van Schalkwyk 2015b). The occurrence of rock engravings on dolerite boulders was also identified in the CTS screening study for the SHA (2016). An engraving site along the road between Copperton and Van Wyksvlei was noted from a previous study. The rock art comprises scraped engravings of eland and ostrich as well as very recent (historical) images of horses with riders, a chariot and some writing (Van Schalkwyk 2015a). Previous studies also identified a few isolated historical structures or farmsteads and graves or burial grounds that date to the historical period (Van Schalkwyk 2015a, Van Schalkwyk 2015b, CTS 2016). Mlilo (2018) identified sparse scatters of stone tools occurring as isolated finds mostly along streams which included cores, scrapers, flakes, and flake blades. Matenga (2017 d). During his Study on The Farm Viegulands Put 42 situated 25km to the west also straddling the R357 road from Douglas to Prieska identified MSA/LSA lithics were found to be widely distributed indicating general hunter-gatherer foraging activities. There was single occurrence of a hand axe which may date back to the Early Stone Age. There were buildings and a burial ground on the property both associated with the pioneer commercial farmers. De Cock, S & G Narainne. (2016) identified a spread of ESA and MSA stone artefacts across the study area for Humansrus Solar PV Facility 3 near Prieska.

Although Early Stone Age (ESA) artefacts have been recorded, these mainly consist of flakes and cores commonly based on quartzite cobbles, but formal ESA tools such as hand axes and cleavers are absent (Beaumont 2005, 2006 & 2007). An extensive surface scatter of small hand axes is supposed to occur approximately 10km upstream from Prieska (Beaumont 2007). It is possible that this is Fauresmith material, which is a transitional stone tool industry between the ESA and Middle Stone Age (MSA) (Nilsen 2012). The presence of stone artefacts representing this transitional Fauresmith industry and/or late phase of the Acheulian is frequently identified in the surrounding environment (Beaumont 2005 & 2008 and Rossouw 2007). Stone artefacts of MSA origin appear to be the most commonly occurring archaeological materials in the surrounding landscape (Beaumont 2005 & 2008, Dreyer 2005, Morris 2009, 2010, 2011, 2012, Nilsen 2012, Rossouw 2007 and Van Ryneveld 2005 & 2006). Typically, the MSA material consists of isolated stone artefacts and low-density artefact scatters that include Llevallois cores, flakes and blades with faceted or prepared platforms, and the dominant formal tools are irregular scrapers (Van Ryneveld 2006). Banded iron stone is the most commonly used raw material. Although stone artefacts of Later Stone Age (LSA) origins are reported to occur in the surrounding area, these seem to be less common than specimens of MSA age (Rossouw 2007 and Van Ryneveld 2005). Overall, Stone Age materials are scattered thinly

over the modern land surface and to date, the Stone Age finds are considered to be of low to no archaeological significance (Morris 2009a, 2009b, 2010, 2011, 2012). This is due to the low frequencies of occurrences, temporally mixed assemblages, and the fact that artefacts are found in disturbed, derived and unstratified contexts. Kaplan 2011 identified scatters of MSA and LSA tools in the vicinity of Prieska.

5 RESULTS OF THE FIELD STUDY

5.1 Archaeology

The site was scanned for archaeological remains, but given the previous and current land use activities, no archaeological remains were identified during the survey. Based on the field study results and field observations, the receiving environment for the prospecting site is low to medium potential to yield previously unidentified archaeological sites during prospecting. Literature review also revealed that no Stone Age sites are shown on a map contained in a historical atlas of this area. This, however, should rather be seen as a lack of research in the area and not as an indication that such features do not occur.

5.2 Burial grounds and Graves

Human remains and burials are commonly found close to archaeological sites and abandoned settlements; they may be found in abandoned and neglected burial sites or occur sporadically anywhere because of prehistoric activity, victims of conflict or crime. It is often difficult to detect the presence of archaeological human burials on the landscape as these burials, in most cases, are not marked at the surface and concealed by dense vegetation cover. Human remains are usually identified when they are exposed through erosion, earth moving activities mining and construction. In some instances, packed stones or bricks may indicate the presence of informal burials. If any human bones are found during the course of prospecting work, then they should be reported to an archaeologist and work in the immediate vicinity should cease until the appropriate actions have been carried out by the archaeologist. Where human remains are part of a burial, they would need to be exhumed under a permit from either SAHRA (for pre-colonial burials as well as burials later than about AD 1500) or Department of Health for graves younger than 60 years.

The field survey recorded several burial sites and graves within the proposed prospecting right application site.

Burial site 1 (WBS01)

The first burial site (WBS01) is located at coordinates 29°22'39.20"S 22°27'15.70"E. Burial site WBS01 is located approximately 20m from a stream, ±300m west of farm house WHS03. This burial site has eight visible graves marked with oval shaped stone cairns with headstones. WBS01 is not fenced and does not have any clear boundaries. According to Prestorious (farm owner) the identified graves are older than 60 years.

Plate 20: showing WBS01 burial site.

Plate 21: showing burial site located within the proposed prospecting site.

Burial site 2 (WBS02)

Burial site WBS02 is located at coordinates 29°22'39.33"S 22°27'28.46"E approximately 5m from the access road. WBS02 is located at the entrance to a farmstead WHS03. The burial site has one grave, with an inscribed tombstone. The burial site is fenced with diamond mesh. This grave is confirmed to be older than 60 years.

Plate 22: showing burial site WBS02.

Burial Site 3 (WBS03)

Burial site WBS03 is located along the road servitude at coordinates 29°22'42.80"S 22°27'38.60"E, approximately 200m from farmstead WHS03. There is a farm demarcation fence withing the burial site.The burial site has ±20 graves marked with black headstones. Most of the graves are in their dilapidated state of conservation evidenced by burrowing animals creating holes. No confirmable evidence of visitorship was identified within this burial site. Burial site WBS03 is not fenced. The burial site was confirmed to be older than 60years. As such burial site WBS03 is protected in terms of Section 36 of the NHRA.

Plate 23: showing burial site WBS03 within the proposed prospecting site

Plate 24: showing burial site WBS03

Plate 25: showing evidence of barrowing withing the burial site WBS03

Burial Site 4 (WBS04)

The fourth burial site (WBS04) is located at coordinates 29°22'47.40"S 22°27'37.00"E. The burial site is demarcated with a thick stone wall approximately 50cm high with portions of the wall bulging. The burial site has ±10 graves. Two of the graves have tombstones while the rest are marked with oval shaped stones. These graves are more than 60 years.

Plate 26: Showing burial site (WBS04).

Plate 27: Showing a grave under a tree within burial site WBS04.

Burial Site 5 (WBS05)

Burial site WBS05 is an isolated burial site located at coordinates 29°22'55.60"S 22°27'42.40"E under a shepherd tree. WBS05 has 6 graves marked with black iron stones and are under a shepherd tree. Stones are scattered around the burial site.

Plate 28: showing WBS05 burial site under a shepherd tree.-

Burial Site 6 (WBS06)

Burial site 6 (WBS06) is located within a densely vegetated environment with trees within and around the burial site. WBS06 is located at coordinates 29°22'40.60"S 22°27'33.00"E. The burial site has 3 graves marked with tombstones. Burial site WBS06 is partly obscured by dense vegetation cover. The burial site is fenced with barbed wire. One grave indicates that they are all possibly older than 60 years.

Plate 29: showing an inscribed grave within the proposed prospecting site

Plate 30: Showing burial site WBS06 within highly vegetated environs.

Burial Site 7 (WBS07)

Burial site WBS07 is an isolated burial site located at coordinates 29°21'40.80"S 22°29'19.30"E. The burial site has ten graves marked with oval shaped stone cairns and the graves are possibly older than 60 years. Burial site WBS07 is not fenced.

Plate 31: showing burial site WBS07.

Plate 32: showing an inscribed grave within the proposed prospecting site

Burial Site 8 (WBS08)

WBS08 is located approximately 100m from farmstead WHS02, with oranges plantation ±20m east of the burial site at coordinates 29°19'43.40"S 22°28'5.00"E. WHS08 has 8 graves marked with tombstones and are fenced with diamond mesh. There are also burial goods (wooden cross and a tin) on top of graves. In terms of their age, some of the graves are older than 60 years. As such are protected in terms of Section 36 of the NHRA.

Plate 33: showing burial site WBS08.

Plate 34: showing one of the graves within the densely vegetated cemetery.

Plate 35: showing an inscribed grave within the proposed prospecting site

Burial Site 9 (WBS09)

The ninth burial site is located at coordinates 29°19'50.90"S 22°27'58.60"E approximately 200m south of farmhouse WHS02. WBS09 has two graves with tombstones, and one has a brick outline. This site is fenced with barbed wire. Burial site WBS09 was confirmed to be older than 60 years.

Plate 36: Showing burial site WBS09.

Plate 37: showing one of the graves within burial site WBS09.

Burial Site 10 (WBS10)

WBS10 is located at coordinates 29°18'7.84"S22°27'52.09"E approximately 150m north of farmhouse WHS01. The survey recorded four graves marked with tombstones within the burial site. These graves are older than 60 years and are fenced with diamond mesh.

Plate 38: showing WBS10 burial site.

Plate 39: showing burial site WBS10.

Plate 40: showing burial site WBS10.

It should be noted that burial grounds and gravesites are accorded the highest social significance threshold (see Appendix 3). They have both historical and social significance and are considered sacred. Wherever they exist or not, they may not be tempered with or interfered with without a permit from SAHRA. It should also be borne in mind that the possibility of encountering human remains during subsurface earth moving works anywhere on the landscape is ever present. The possibility of encountering previously unidentified burial sites is low within the proposed prosecting site, however should such sites be identified during prospecting, they are still protected in terms of Section 36 of NHRA.

5.3 Public Monuments and Memorials

The study did not record any public memorials and monuments within the proposed prospecting right application site. As such the proposed Prospecting Right Application may be approved without any further investigation and mitigation in terms of Section 27 & 9 of the NHRA.

5.4 Buildings and Structures

The study identified historical buildings and structures within the direct footprint if the proposed prospecting site. In terms of Section 34 of the NHRA the proposed prospecting may be approved with recommendations made herein.

Building and structure 1 (WHS01)

Building and structure WHS01 is located at coordinates 29°18'14.32"S22°27'51.43"E. The site is located in a dense vegetated area. WHS01 is an abandoned farmhouse with four historical buildings. Two of the buildings are in their

dilapidated state of conservation and older than 60 years but the other two are recent buildings. There are also old water reservoirs which include water tanks, wells, and windmills that were used for agricultural purposes.

Plate 41: showing current building and structures at site WHS01.

Plate 42: showing abandoned historic building WHS01.

Plate 43: showing water reservoirs.

Plate 44: showing bulky water tanks.

Building and structure 2 (WHS02)

WHS02 is a historic farmstead located at coordinates 29°19'41.62"S 22°28'3.35"E. The farmstead has several houses with oranges plantation 20m east of the farmstead. WHS02 was confirmed to be older than 60years. As such WHS02 is protected in terms of Section 34 of the NHRA.

Plate 45: showing farmstead WHS02.

Building and structure 3 (WHS03)

WHS03 is a historic farmstead located at coordinates 29°22'43.64"S 22°27'28.42"E. The farmstead has several houses dotted within this farmstead. WHS03 was confirmed to be older than 60years. As such WHS03 is protected in terms of Section 34 of the NHRA.

Building and structure 4 (WHS04)

The study recorded historic structure WHS04 at coordinates 29°22'55.25"S 22°27'36.76"E. The identified historic structure is an abandoned homestead but is currently rehabilitated. The homestead is dilapidated with peeling-off walls. WHS04 was confirmed to be older than 60years. As such WHS04 is protected in terms of Section 34 of the NHRA.

Plate 46: showing site WHS04.

Building and structure 5 (WHS05)

Northeast of the site, the survey recorded a farmhouse at coordinates 29°21'56.40"S 22°28'55.08"E. Historic structure WHS05 is an isolated structure. A portion of the structure is in its dilapidated and derelict state of conservation.

Plate 47: showing isolated site WHS05.

Plate 48: showing historic structure WHS05.

Building and structure 6 (WHS06)

WHS06 is located approximately 100m east of site WHS05. This site is dotted with derelict and dilapidated building structures abandoned. WHS06 is an isolated structure.

Plate 49: showing historic structure WHS06.

Stone Structures 1 and 2 (WSS01 and WSS02)

WSS01 and WSS02 are stone structures. WSS01 is an old field that is demarcated with a thick 1m high stone walls. These stone structures were used as security for their fields. There is evidence of bulging on some of the portions of the stone structures. WSS02 is an animal stone kraal built without mortar or any binding agent. WSS02 stone walls are approximately 1.5m high. These stone structures are both older than 60 years.

Plate 50: showing wall WSS01.

Plate 51: showing stone structure WSS01.

Plate 52: showing stone walled structure WSS02.

Plate 53: showing WSS02 stone walls.

Summary of findings

Findings	Coordinates	Description
Burial Site 1 **(WBS01)**	29°22'39.20"S 22°27'15.70"E	8 visible graves
Burial Site 2 **(WBS02)**	29°22'39.33"S 22°27'28.46"E	A single grave
Burial Site 3 **(WBS03)**	29°22'42.80"S 22°27'38.60"E	± 20 graves
Burial Site 4 **(WBS04)**	29°22'47.40"S 22°27'37.00"E	10 graves protected with a thick stone wall.
Burial Site 5 **(WBS05)**	29°22'55.60"S 22°27'42.40"E	An isolated grave.
Burial Site 6 **(WBS06)**	29°22'40.60"S 22°27'33.00"E	3 graves marked with tombstones.
Burial Site 7 **(WBS07)**	29°21'40.80"S	Isolated burial site with 10 graves.

	22°29'19.30"E	
Burial Site 8 **(WBS08)**	29°19'43.40"S 22°28'5.00"E	8 graves fenced with diamond mesh.
Burial Site 9 **(WBS09)**	29°19'50.90"S 22°27'58.60"E	Two graves with brick outline and headstones.
Burial Site 10 **(WBS10)**	29°18'7.84"S 22°27'52.09"E	Four graves marked with tombstones.
Building and structure 1 **(WHS01)**	29°18'14.32"S 22°27'51.43"E	An abandoned farmhouse with four historical buildings.
Building and structure 2 **(WHS02)**	29°19'41.62"S 22°28'3.35"E	A historic farmstead
Building and structure 3 **(WHS03)**	29°22'43.64"S 22°27'28.42"E	Historic farmstead
Building and structure 4 **(WHS04)**	29°22'55.25"S 22°27'36.76"E	historic structure
Building and structure 5 **(WHS05)**	29°21'56.40"S 22°28'55.08"E	An isolated farmhouse.
Building and structure 6 **(WHS06)**	29°20'56.39"S 22°17'25.00"E	Abandoned, derelict and dilapidated building structures
Stone Structures 1 and 2 **(WSS01 and WSS02)**		Stone structures

5.5 Impacts Assessment

An impact can be defined as any change in the physical-chemical, biological, cultural, and/or socio-economic environmental system that can be attributed to human activities related to the project site under study for meeting a project need A quantitative impact assessment will be conducted for the project. The method to be used makes use of the basic risk assessment approach of deriving an expression for risk from the product of likelihood (probability) and consequences.

The main objective of the impact assessment is to identify the negative impacts that can be avoided and/or mitigated and the benefits of the positive impacts during the planning, operation and decommissioning and rehabilitation phases of the mining project on the environment. The impact assessment is aimed predicting potential impacts of the proposed project. Impact assessment strives to avoid damage, loss of ecosystems services, and where they cannot be avoided, to reduce and mitigate these impacts (DEA, 2013). Offsets to compensate for loss of habitat are regarded as a last resort, after all efforts have been made to avoid, reduce and mitigate. The mitigation hierarchy is represented in **Table 10-1**.

The significance of the impacts will be assessed considering the following descriptors:

5.5.1 Impact Identification

The study will identify impacts (positive and negative) associated with the project. The study will be required to specify the type of impact (direct/indirect) and will include an assessment of cumulative impacts that may occur because of the proposed project.

5.5.2 Impact Assessment Methodology

All the identified potential impacts were assessed according to the following Impact Assessment Methodology as described below. This methodology has been utilised for the assessment of heritage impacts where the consequence (severity of impact, spatial scope of impact and duration of impact) and likelihood (frequency of activity and frequency of impact) have been considered in parallel to provide an impact rating and hence an interpretation in terms of the level of environmental management required for each impact.

The first stage of any impact assessment is the identification of potential heritage activities, aspects and impacts which may occur during the commencement and implementation of a project. This is supported by the identification of receptors and resources, which allows for an understanding of the impact pathway and an assessment of the sensitivity to change. Heritage impacts (social and biophysical) are then identified based on the potential interaction between the aspects and the receptors/resources.

The significance of the impact is then assessed by rating each variable numerically according to defined criteria as outlined in **Table 3**. The purpose of the rating is to develop a clear understanding of influences and processes associated with each impact. The severity, spatial scope and duration of the impact together comprise the consequence of the impact and when summed can obtain a maximum value of 15. The frequency of the activity and the frequency of the impact together comprise the likelihood of the impact occurring and can obtain a maximum value of 10. The values for likelihood and consequence of the impact are then read off a significance

rating matrix table. This matrix thus provides a rating on a scale of 1 to 150 (low, medium low, medium high or high) based on the consequence and likelihood of a heritage impact occurring.

Natural and existing mitigation measures, including built-in engineering designs, are included in the pre-mitigation assessment of significance. Measures such as demolishing of infrastructure, and reburial of graves, are considered post-mitigation.

SEVERITY OF IMPACT	RATING
Insignificant / non-harmful	1
Small / potentially harmful	2
Significant / slightly harmful	3
Great / harmful	4

SPATIAL SCOPE OF IMPACT	RATING
Activity specific	1
Project area specific (within the prospecting area boundary)	2
Local area (within 5 km of the mine boundary)	3
Regional (Municipal area)	4
National	5

DURATION OF IMPACT	RATING
One day to one month	1
One month to one year	2
One year to ten years	3
Life of operation	4

CONSEQUENCE

FREQUENCY OF ACTIVITY / DURATION OF ASPECT	RATING
Annually or less / low	1
6 monthly / temporary	2
Monthly / infrequent	3
Weekly / life of operation / regularly / likely	4

FREQUENCY OF IMPACT	RATING
Almost never / almost impossible	1
Very seldom / highly unlikely	2
Infrequent / unlikely / seldom	3
Often / regularly / likely / possible	4

LIKELIHOOD

Table 2: Impact Assessment Parameter Ratings

CONSEQUENCE

LIKELIHOOD

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2	4	6	8	10	12	14	16	18	20	22	24	26	28	30
3	6	9	12	15	18	21	24	27	30	33	36	39	42	45
4	8	12	16	20	24	28	32	36	40	44	48	52	56	60
5	10	15	20	25	30	35	40	45	50	55	60	65	70	75
6	12	18	24	30	36	42	48	54	60	66	72	78	84	90
7	14	21	28	35	42	49	56	63	70	77	84	91	98	105
8	16	24	32	40	48	56	64	72	80	88	96	104	112	120
9	18	27	36	45	54	63	72	81	90	99	108	117	126	135
10	20	30	40	50	60	70	80	90	100	110	120	1	140	150

	High	76 to 150	Improve current management
	Medium High	40 to 75	Maintain current management
	Medium Low	26 to 39	
	Low	1 to 25	No management required

SIGNIFICANCE = CONSEQUENCE x LIKELIHOOD

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Loss of heritage /Impact Statement

The main cause of impacts to archaeological sites is direct, physical disturbance of the archaeological remains themselves and their contexts. It is important to note that the heritage and scientific potential of an archaeological site is highly dependent on its geological and spatial context. This means that even though, for example a deep excavation may expose buried archaeological sites and artefacts, the artefacts are relatively meaningless once removed from their original position. The primary impacts are likely to occur during clearance and drilling, indirect impacts may occur during movement of heavy prospecting vehicles. Any additional excavation for foundations temporary camp sites will result in the relocation or destruction of all existing surface heritage material (if any are present).

Similarly, the clearing of access roads will impact on material that lies buried in the topsoil. Since heritage sites, including archaeological sites, are non-renewable, it is important that they are identified, and their significance assessed prior to prospecting. It is important to note that due to the localised nature of archaeological resources, that individual archaeological sites could be missed during the survey, although the probability of this is very low within the proposed prospecting site. Further, archaeological sites and unmarked graves may be buried beneath the surface and may only be exposed during surface clearance. The purpose of the AIA is to assess the sensitivity of the area in terms of archaeology and to avoid or reduce the potential impacts of prospecting by means of mitigation measures (see appended Chance Find Procedure). There is still a possibility of finding archaeological remains buried beneath the ground. It is the considered opinion of the author that the chances of recovering significant archaeological materials is present within the prospecting site.

5.5.3 Pre & Prospecting/operational phase

Table 3: Loss of heritage during prospecting phase.

Loss of Heritage					
Phase	**Prospecting**				
Criteria	**Details / Discussion**				
Description of impact	• Mark all identified heritage sites • Destruction of archaeological remains during clearance. • Disturbance of buried archaeological remains during drilling. • Stumping of archaeological remains by movement of vehicles				
Mitigation required	• Provide for 100m buffer zone from each recorded site. • Minimise the impacted area and clear only what is required. • Place boreholes on areas already disturbed. • Use existing farm tracks and roads to access the site. • Use chance find procedure to manage accidental finds				
Parameters	***Intensity***	***Spatial scale***	***Duration***	***Probability***	***Significance***
Pre-Mitigation	Serious (3)	Limited (2)	Short-term (3-5 years) (3)	Likely (8)	Major (negative) (64)
Post Mitigation	Limited (2)	Minor (2)	Short-term (3-5 years) (3)	Likely (4)	Minor (negative) (36)

5.5.4 Decommissioning/post prospecting/closure phase

No direct loss of heritage resources is expected during this phase of the project. However, indirect impacts may occur during movement of vehicles.

Table 4: Loss of heritage during decommissioning/closure phase.

Loss of heritage					
Phase	**Decommissioning (Removal infrastructure and equipment)**				
Criteria	**Details / Discussion**				
Description of impact	• Stumping of archaeological remains by moving vehicles. • Accidental damage of graves by moving vehicles				
Mitigation required	• Using existing tracks and roads to remove infrastructure and equipment. • Remove markings/barricades for heritage sites after completion of the rehabilitation process. • Use chance find procedure to manage any accidental exposure /damage of heritage resources.				
Parameters	***Intensity***	***Spatial scale***	***Duration***	***Probability***	***Significance***
Pre-Mitigation	Serious (4)	Limited (2)	Short-term (3-5 years) (3)	Likely (6)	Major (negative) (64)
Post Mitigation	Limited (3)	Minor (2)	Short-term (3-5 years) (3)	Likely (4)	Minor (negative) (36)

Table 5: Impact Assessment Ratings

Heritage Aspect	• Nature of potential impact/risk	• Heritage Impact Significance Before Mitigation							• Impact Management Actions (Proposed Mitigation Measures)	• Heritage Impact Significance After Mitigation						
		• Consequence			• Probability					• Consequence			• Probability			
		• Severity	• Spatial	• Duration	• Frequency: Activity	• Frequency: Impact	• Significance	• Significance Rating	• Management and Mitigation Measures	• Severity	• Spatial	• Duration	• Frequency: Activity	• Frequency: Impact	• Significance	• Significance Rating
Loss of Heritage	Archaeological remains	3	2	3	4	4	64	Medium-High	*Chance finds procedure * Appended Chance find procedure * Construction team must be educated on importance of heritage * Mitigation is not required	2	2	2	3	3	36	Medium-Low
	Burial grounds and Graves	3	2	3	4	4	64	Medium-High		2	2	2	3	3	36	Medium-Low
	Building and structure	3	2	3	4	4	64	Medium-High		2	2	2	3	3	36	Medium-Low
	Public monuments and plaques	2	2	2	3	3	36	Medium-Low		2	2	2	3	3	36	Medium-Low

Table 6: Mitigation hierarchy of impacts

	Avoid or Prevent	Refers to considering options in project location, sitting, scale, layout, technology and phasing to avoid impacts on heritage. This is the best option but is not always possible. Where environmental and social factors give rise to unacceptable negative impacts, prospecting should not take place. In such cases, it is unlikely to be possible or appropriate to rely on the other steps in the mitigation.
	Minimise	Refers to considering alternatives in the project location, sitting, scale, layout, technology and phasing that would minimise impacts on heritage. In cases where there are heritage constraints, every effort should be made to minimise impacts.
	Rehabilitate	Refers to rehabilitation of areas where impacts are unavoidable, and measures are provided to return impacted areas to near natural state or an agreed land use after mine closure. Rehabilitation can, however, fall short of replicating the diversity and complexity of natural systems.
	Offset	Refers to measures over and above rehabilitation to compensate for the residual negative impacts on heritage after every effort has been made to minimise and then rehabilitate the impacts. Heritage offsets can provide a mechanism to compensate for significant residual impacts on biodiversity.

A small portion of the property with the remaining cultural landscape is anticipated to be lost due to the proposed prospecting and associated activities. The impact of the proposed activity will involve loss of heritage.

5.6 Cumulative Impacts

Cumulative impacts are defined as impacts that result from incremental changes caused by other past, present, or reasonably foreseeable actions together with the project. Therefore, the assessment of cumulative impacts for the proposed prospecting is considered the total impact associated with the proposed project when combined with other past, present, and reasonably foreseeable future developments projects. The impacts of the proposed prospecting were assessed by comparing the post-project situation to a pre-existing baseline. This section considers the cumulative impacts that would result from the combination of the proposed prospecting.

This proposed prospecting combined with other proposed project activities will effectively transform the landscape and will spoil the visual quality of the area along the road. The cumulative impact will negatively affect the landscape quality of the area which are ordinarily considered to be source. The frequency of development proposals in the area has a potential of collectively changing the character of the landscape (see Kathu area as an example). The once isolated landscape will see volumes of people establishing low settlement or enlarging the existing ones. In the long run the accumulative impact will be of high significance in terms of its potential to change the characteristics and quality of the landscape in the long run. The field survey focused on potential of lithic tools and rock engravings that are known to occur in the study area.

5.7 Mitigation

Mitigation for the proposed prospecting site is required to protect the recorded burial sites and building structures. A copy of the chance finds procedure must be kept at the site office to ensure appropriate management of any accidental finds during prospecting.

6 DISCUSSION

Several Phase 1 Heritage studies for various infrastructure developments and mining developments were conducted since 2006 in the general project area. Desktop research revealed that the project area is rich in LIA sites (Morris 2009, 2010, 2011, 2012, Ryneveld 2007, 2005 and Mlilo 2018a, and 2018b). In terms of the archaeology and heritage in respect of the proposed development site, recorded historic structures and burial sites are obvious 'Fatal Flaws' or 'No-Go' areas. However, the potential for chance finds, remains and the applicant and contractors are advised to be diligent and observant during construction of the land site. The archaeology of the Northern Cape is rich and varied, covering long spans of human history (Morris 2006). In the Northern Cape ESA assemblages, including the Fauresmith, tend to occur on the margins of seasonal rivers, semi-permanent water holes or pans (Pelser 2010) see Kusel *et al* (2009). The Stone Age record contains material spanning the Early, Middle and Later Stone Age periods and rock engravings are relatively common and were also recorded in the general project (Morris 2009a, 2009b, 2010, 2011 and Van Ryneveld 2007, 2008, 2009, Nilsen 2012). Acheulian and LSA collections from Douglas and Hopetown are housed in the Iziko and McGregor Museums (Beaumont 2006). Stone artefacts are made in a variety of raw materials including banded iron stone, andesite, quartzite, dolerite and hornfels, but banded ironstone is notably the most common (Beaumont 2005, 2006, 2007 & 2008 and Rossouw 2007).

Although Early Stone Age (ESA) artefacts have been recorded, these mainly consist of flakes and cores commonly based on quartzite cobbles, but formal ESA tools such as hand axes and cleavers are absent (Beaumont 2005, 2006 & 2007). An extensive surface scatter of small hand axes is supposed to occur approximately 10km upstream from Prieska (Beaumont 2007). It is possible that this is Fauresmith material, which is a transitional stone tool industry between the ESA and Middle Stone Age (MSA) (Nilsen 2012). The presence of stone artefacts representing this transitional Fauresmith industry and/or late phase of the Acheulian is frequently identified in the surrounding environment (Beaumont 2005 & 2008 and Rossouw 2007). Stone artefacts of MSA origin appear to be the most commonly occurring archaeological materials in the surrounding landscape (Beaumont 2005 & 2008, Dreyer 2005, Morris 2009, 2010, 2011, 2012, Nilsen 2012, Rossouw 2007 and Van Ryneveld 2005 & 2006). Typically, the MSA material consists of isolated stone artefacts and low-density artefact scatters that include Llevallois cores, flakes and blades with faceted or prepared platforms, and the dominant formal tools are irregular scrapers (Van Ryneveld 2006). Banded iron stone is the most commonly used raw material. Although stone artefacts of Later Stone Age (LSA) origin is reported to occur in the surrounding area, these seem to be less common than specimens of MSA age (Rossouw 2007 and Van Ryneveld 2005). Overall, Stone Age materials are scattered thinly over the modern land surface and to date, the Stone Age finds are of low to no archaeological significance (Morris 2009a, 2009b, 2010, 2011, 2012). This is due to the low frequencies of occurrences, temporally mixed assemblages, and the fact that artefacts are found in

disturbed, derived and unstratified contexts. Some areas are richer than others, and not all sites are equally significant, and this is true for the current project site. The lack of confirmable archaeological sites recorded during the current survey is thought to be a result of two primary interrelated factors:

1. That proposed prospecting site is located within a degraded f area and have reduced sensitivity for the presence of high significance physical cultural site remains, be they archaeological, historical or burial sites, due to stamping and overgrazing by livestock.

2. Limited ground surface visibility on sections of the proposed prospecting site may have impended the detection of other physical cultural heritage site remains or archaeological signatures within the development site. This factor is exacerbated by the fact that the study was limited to general survey without necessarily conducting any detailed inspection of specific locations that will be affected by the proposed prospecting right application site.

The absence of confirmable and significant archaeological cultural heritage site is not evidence that such sites do not exist in the proposed prospecting site. Significance of the sites of Interest (prospecting site) is not limited to presence or absence of physical archaeological sites. Based on the results of the field study the proposed prospecting right application may be approved to proceed without any further investigation from a heritage perspective.

7 CONCLUSION

Integrated Specialist Services (Pty) Ltd was tasked by NDI Geological Consulting Services (Pty) Ltd to carry out a HIA for the Prospecting for copper and iron on Portion 1, 2, 3 and Remaining Extent of the Farm Bultfontein 327, Remaining Extent and Portion 1 of the Farm Swaartpan 329 and the Remaining extent and Portion 1 of the Farm Janplaats 328 situated in the Magisterial District of Hay, Northern Cape Province. The literature review and field surveys confirmed that the project area is situated within a contemporary cultural landscape dotted with settlements, stock and game faming as well mining establishments around Prieska. The general project area is rich in archaeological sites ranging from ESA, MSA to LIA, however, the field study did not identify any sites within the proposed prospecting site. In terms of the archaeology, there are no obvious 'Fatal Flaws' or 'No-Go' areas. However, the potential for chance finds, remains and the applicant and contractors are urged to be diligent and observant during prospecting. The recorded burial site must be treated as No Go area during prospecting and measures to protect it must be put in place. The procedure for reporting chance finds has clearly been laid out and if this report is adopted by SAHRA, then there are no archaeological reasons why the proposed Prospecting Right Application cannot be approved.

8 RECOMENDATIONS

Report makes the following recommendations:

1. It is recommended that SAHRA endorse the report as having satisfied the requirements of Section 38 (8) of the NHRA requirements.
2. It is recommended that SAHRA make a decision in terms of Section 38 (4) of the NHRA to approve the proposed Prospecting Right Application on condition that the identified burial site is treated as NO GO Area during prospecting and 100m buffer zone must be provided for in terms of SAHRA Regulations of 2020.
3. The identified burial site must be properly mapped and marked during prospecting.
4. From a heritage perspective supported by the findings of this study, the Prospecting Right Application is supported. However, the prospecting should be approved under observation that prospecting does not extend beyond the area considered in this report/affect the identified heritage sites.
5. Should chance archaeological materials or human remains be exposed during prospecting on any section of the site, work should cease on the affected area and the discovery must be reported to the heritage authorities immediately so that an investigation and evaluation of the finds can be made. The overriding objective, where remedial action is warranted, is to minimize disruption in Prospecting scheduling while recovering archaeological and any affected cultural heritage data as stipulated by the NHRA regulations.
6. Subject to the recommendations herein made and the implementation of the mitigation measures and adoption of the project EMP, there are no significant cultural heritage resources barriers to the proposed Prospecting Right Application. The Heritage authority may approve the Prospecting Right Application as planned with special commendations to implement the recommendations here in made.

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10 APPENDIX 1: CHANCE FIND PROCEDURE FOR PROSPECTING FOR COPPER AND IRON ON PORTION 1, 2, 3 AND REMAINING EXTENT OF THE FARM BULTFONTEIN 327, REMAINING EXTENT AND PORTION 1 OF THE FARM SWAARTPAN 329 AND THE REMAINING EXTENT AND PORTION 1 OF THE FARM JANPLAATS 328 SITUATED IN THE MAGISTERIAL DISTRICT OF HAY, NORTHERN CAPE PROVINCE.

AUGUST 2023

ACRONYMS

BGG	Burial Grounds and Graves
CFPs	Chance Find Procedures
ECO	Environmental Control Officer
HIA	Heritage Impact Assessment
ICOMOS	International Council on Monuments and Sites
NHRA	National Heritage Resources Act (Act No. 25 of 1999)
SAHRA	South African Heritage Resources Authority
SAPS	South African Police Service
UNESCO	United Nations Educational, Scientific and Cultural Organisation

10.1 CHANCE FIND PROCEDURE

10.1.1 Introduction

An Archaeological Chance Find Procedure (CFP) is a tool for the protection of previously unidentified cultural heritage resources during prospecting. The main purpose of a CFP is to raise awareness of all construction, prospecting workers and management on site regarding the potential for accidental discovery of cultural heritage resources and establish a procedure for the protection of these resources. Chance Finds are defined as potential cultural heritage (or paleontological) objects, features, or sites that are identified outside of or after Heritage Impact studies, normally as a result of prospecting monitoring. Chance Finds may be made by any member of the project team who may not necessarily be an archaeologist or even visitors. Appropriate application of a CFP on development projects has led to discovery of cultural heritage resources that were not identified during archaeological and heritage impact assessments. As such, it is considered to be a valuable instrument when properly implemented. For the CFP to be effective, the site manager must ensure that all personnel on the proposed prospecting site understand the CFP and the importance of adhering to it if cultural heritage resources are encountered. In addition, training or induction on cultural heritage resources that might potentially be found on site should be provided. In short, the Chance find procedure details the necessary steps to be taken if any culturally significant artefacts are found during prospecting.

10.1.2 Definitions

In short, the term 'heritage resource' includes structures, archaeology, meteors, and public monuments as defined in the South African National Heritage Resources Act (Act No. 25 of 1999) (NHRA) Sections 34, 35, and 37. Procedures specific to burial grounds and graves (BGG) as defined under NHRA Section 36 will be discussed separately as this require the implementation of separate criteria for CFPs.

10.1.3 Background

The Prospecting for copper and iron on Portion 1, 2, 3 and Remaining Extent of the Farm Bultfontein 327, Remaining Extent and Portion 1 of the Farm Swaartpan 329 and the Remaining extent and Portion 1 of the Farm Janplaats 328 situated in the Magisterial District of Hay, Northern Cape Province. The proposed prospecting is subject to heritage survey and assessment at planning stage and Prospecting Right Application in accordance with Section 38(8) of NHRA. These surveys are based on surface indications alone and it is therefore possible that sites or significant archaeological remains can be missed during surveys because they occur beneath the surface. These are often accidentally exposed in the course of construction or any associated construction work and hence the need for a Chance Find Procedure to deal with accidental finds. In this case an extensive Archaeological Impact Assessment

was completed by T. Mlilo (2022) on the prospecting site. The AIA/HIA conducted was very comprehensive covering the entire site. The current study (Mlilo 2022) recorded one burial site within the proposed prospecting site.

10.1.4 Purpose

The purpose of this Chance Find Procedure is to ensure the protection of previously unrecorded heritage resources within the prospecting site. This Chance Find Procedure intends to provide the applicant and contractors with appropriate response in accordance with the NHRA and international best practice. The aim of this CFP is to avoid or reduce project risks that may occur as a result of accidental finds whilst considering international best practice. In addition, this document seeks to address the probability of archaeological remains finds and features becoming accidentally exposed during prospecting and movement of prospecting equipment. The proposed prospecting activities have the potential to cause severe impacts on significant tangible and intangible cultural heritage resources buried beneath the surface or concealed by dense grass cover. Integrated Specialist Services (Pty) Ltd developed this Chance Find Procedure to define the process which govern the management of Chance Finds during prospecting. This ensures that appropriate treatment of chance finds while also minimizing disruption of the mining schedule. It also enables compliance with the NHRA and all relevant regulations. Archaeological Chance Find Procedures are to promote preservation of archaeological remains while minimizing disruption of prospecting scheduling. It is recommended that due to the moderate archaeological potential of the project area, all site personnel and contractors be informed of the Archaeological Chance Find procedure and have access to a copy while on site. This document has been prepared to define the avoidance, minimization and mitigation measures necessary to ensure that negative impacts to known and unknown archaeological remains as a result of project activities and are prevented or where this is not possible, reduced to as low as reasonably practical during prospecting.

Thus, this Chance Finds Procedure covers the actions to be taken from the discovering of a heritage site or item to its investigation and assessment by a professional archaeologist or other appropriately qualified person to its rescue or salvage.

10.2 GENERAL CHANCE FIND PROCEDURE

10.2.1 General

The following procedure is to be executed in the event that archaeological material is discovered:

- All construction/clearance activities in the vicinity of the accidental find/feature/site must cease immediately to avoid further damage to the find site.

- Briefly note the type of archaeological materials you think you have encountered, and their location, including, if possible, the depth below surface of the find
- Report your discovery to your supervisor or if they are unavailable, report to the project ECO who will provide further instructions.
- If the supervisor is not available, notify the Environmental Control Officer immediately. The Environmental Control Officer will then report the find to the Site Manager who will promptly notify the project archaeologist and SAHRA.
- Delineate the discovered find/ feature/ site and provide 30m buffer zone from all sides of the find any other project and 100m buffer zone for mining projects.
- Record the find GPS location, if able.
- All remains are to be stabilised *in situ.*
- Secure the area to prevent any damage or loss of removable objects.
- Photograph the exposed materials, preferably with a scale (a yellow plastic field binder will suffice).
- The project archaeologist will undertake the inspection process in accordance with all project health and safety protocols under direction of the Health and Safety Officer.

- **Finds rescue strategy**: All investigation of archaeological soils will be undertaken by hand, all finds, remains and samples will be kept and submitted to a museum as required by the heritage legislation. In the event that any artefacts need to be conserved, the relevant permit will be sought from the SAHRA.
- An on-site office and finds storage area will be provided, allowing storage of any artefacts or other archaeological material recovered during the monitoring process.
- In the case of human remains, in addition, to the above, the SAHRA Burial Ground Unit will be contacted and the guidelines for the treatment of human remains will be adhered to. If skeletal remains are identified, an archaeological will be available to examine the remains.
- The project archaeologist will complete a report on the findings as part of the prospecting right application process.
- Once authorisation has been given by SAHRA, the Applicant will be informed when prospecting activities can resume.

10.2.2 Management of chance finds

Should the Heritage specialist conclude that the find is a heritage resource protected in terms of the NRHA (1999) Sections 34, 36, 37 and NHRA (1999) Regulations (Regulation 38, 39, 40), Integrated Specialist Services (Pty) Ltd

will notify SAHRA and/or PHRA on behalf of the applicant. SAHRA/PHRA may require that a search and rescue exercise be conducted in terms of NHRA Section 38, this may include rescue excavations, for which ISS will submit a rescue permit application having fulfilled all requirements of the permit application process.

In the event that human remains are accidently exposed, SAHRA Burial Ground Unit or ISS Heritage Specialist must immediately be notified of the discovery in order to take the required further steps:

a. Heritage Specialist to inspect, evaluate and document the exposed burial or skeletal remains and determine further action in consultation with the SAPS and Traditional authorities:

b. Heritage specialist will investigate the age of the accidental exposure in order to determine whether the find is a burial older than 60 years under the jurisdiction of SAHRA or that the exposed burial is younger than 60 years under the jurisdiction of the Department of Health in terms of the Human Tissue Act.

c. The local SAPS will be notified to inspect the accidental exposure in order to determine where the site is a scene of crime or not.

d. Having inspected and evaluated the accidental exposure of human remains, the project Archaeologist will then track and consult the potential descendants or custodians of the affected burial.

e. The project archaeologist will consult with the traditional authorities, local municipality, and SAPS to seek endorsement for the rescue of the remains. Consultation must be done in terms of NHRA (1999) Regulations 39, 40, 42.

f. Having obtained consent from affected families and stakeholders, the project archaeologist will then compile a Rescue Permit application and submit to SAHRA Burial Ground and Graves Unit.

g. As soon as the project archaeologist receives the rescue permit from SAHRA he will, in collaboration with the company/contractor, arrange for the relocation in terms of logistics and appointing of an experienced undertaker to conduct the relocation process.

h. The rescue process will be done under the supervision of the archaeologist, the site representative and affected family members. Retrieval of the remains shall be undertaken in such a manner as to reveal the stratigraphic and spatial relationship of the human skeletal remains with other archaeological features in the excavation (e.g., grave goods, hearths, burial pits, etc.). A catalogue and bagging

system shall be utilised that will allow ready reassembly and relational analysis of all elements in a laboratory. The remains will not be touched with the naked hand; all Contractor personnel working on the excavation must wear clean cotton or non-powdered latex gloves when handling remains in order to minimise contamination of the remains with modern human DNA. The project archaeologist will document the process from exhumation to reburial.

i. Having fulfilled the requirements of the rescue/burial permit, the project archaeologist will compile a mitigation report which details the whole process from discovery to relocation. The report will be submitted to SAHRA and to the client.

Note that the relocation process will be informed by SAHRA Regulations and the wishes of the descendants of the affected burial.

11 APPENDIX 2: HERITAGE MANAGEMENT PLAN INPUT INTO THE PROPOSED PROSPECTING RIGHT APPLICATION

Objective	• Protection of archaeological sites and land considered to be of cultural value. • Protection of known physical cultural property sites against vandalism, destruction and theft; and • The preservation and appropriate management of new archaeological finds should these be discovered during construction.							
No.	Activity	Mitigation Measures	Duration	Frequency	Responsibility	Accountable	Contacted	Informed
Pre-Mining Phase								
1	Planning	Ensure all known sites of cultural, archaeological, and historical significance are demarcated on the site layout plan and marked as no-go areas.	Throughout Project	Weekly Inspection	Contractor [C] CECO	SM	ECO	EA EM PM
Mining Phase								
1	Emergency Response	Should any archaeological or physical cultural property heritage resources be exposed during excavation for the purpose of construction, construction in the vicinity of the finding must be stopped until heritage authority has cleared the development to continue.	N/A	Throughout	C CECO	SM	ECO	EA EM PM
		Should any archaeological, cultural property heritage resources be exposed during excavation or be found on development site, a registered heritage specialist or PHRA official must be called to site for inspection.		Throughout	C CECO	SM	ECO	EA EM PM
		Under no circumstances may any archaeological, historical or any physical cultural property heritage material be destroyed or removed form site;		Throughout	C CECO	SM	ECO	EA EM PM
		Should remains and/or artefacts be discovered on the development site during earthworks, all work will cease in the area affected and the Contractor will immediately inform the Construction Manager who in turn will inform Northern Cape		When necessary	C CECO	SM	ECO	EA EM PM

		PHRA						
		Should any remains be found on site that is potentially human remains, the Northern Cape PHRA and South African Police Service should be contacted.		When necessary	C CECO	SM	ECO	EA EM PM
Rehabilitation Phase								
		Same as prospecting phase.						
Operational Phase								
		Same as prospecting phase.						

12 APPENDIX 4: LEGAL PRINCIPLES OF HERITAGE RESOURCES MANAGEMENT IN SOUTH AFRICA

Extracts relevant to this report from the National Heritage Resources Act No. 25 of 1999, (Sections 5, 36 and 47):

General principles for heritage resources management

5. (1) All authorities, bodies and persons performing functions and exercising powers in terms of this Act for the management of heritage resources must recognise the following principles:

(a) Heritage resources have lasting value in their own right and provide evidence of the origins of South African society and as they are valuable, finite, non-renewable and irreplaceable they must be carefully managed to ensure their survival;

(b) every generation has a moral responsibility to act as trustee of the national heritage for succeeding generations and the State has an obligation to manage heritage resources in the interests of all South Africans.

(c) heritage resources have the capacity to promote reconciliation, understanding and respect, and contribute to the development of a unifying South African identity; and

(d) heritage resources management must guard against the use of heritage for sectarian purposes or political gain.

(2) To ensure that heritage resources are effectively managed

(a) the skills and capacities of persons and communities involved in heritage resources management must be developed; and

(b) provision must be made for the ongoing education and training of existing and new heritage resources management workers.

(3) Laws, procedures and administrative practices must

(a) be clear and generally available to those affected thereby;

(b) in addition to serving as regulatory measures, also provide guidance and information to those affected thereby; and

(c) give further content to the fundamental rights set out in the Constitution.

(4) Heritage resources form an important part of the history and beliefs of communities and must be managed in a way that acknowledges the right of affected communities to be consulted and to participate in their management.

(5) Heritage resources contribute significantly to research, education and tourism and they must be developed and presented for these purposes in a way that ensures dignity and respect for cultural values.

(6) Policy, administrative practice and legislation must promote the integration of heritage resources conservation in urban and rural planning and social and economic development.

(7) The identification, assessment and management of the heritage resources of South Africa must—

(a) take account of all relevant cultural values and indigenous knowledge systems;

(b) take account of material or cultural heritage value and involve the least possible alteration or loss of it;

(c) promote the use and enjoyment of and access to heritage resources, in a way consistent with their cultural significance and conservation needs;

(d) contribute to social and economic development;

(e) safeguard the options of present and future generations; and

(f) be fully researched, documented and recorded.

12.1 Burial grounds and graves

36. (1) Where it is not the responsibility of any other authority, SAHRA must conserve and generally care for burial grounds and graves protected in terms of this section, and it may make such arrangements for their conservation as it sees fit.

(2) SAHRA must identify and record the graves of victims of conflict and any other graves which it deems to be of cultural significance and may erect memorials associated with the grave referred to in subsection (1), and must maintain such memorials.

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

(a) destroy, damage, alter, exhume or remove from its original position or otherwise disturb the grave of a victim of conflict, or any burial ground or part thereof which contains such graves;

(b) destroy, damage, alter, exhume, remove from its original position or otherwise disturb any grave or burial ground older than 60 years which is situated outside a formal cemetery administered by a local authority; or

(c) bring onto or use at a burial ground or grave referred to in paragraph (a) or (b) any excavation equipment, or any equipment which assists in the detection or recovery of metals.

(4) SAHRA or a provincial heritage resources authority may not issue a permit for the destruction or damage of any burial ground or grave referred to in subsection (3)(a) unless it is satisfied that the applicant has made satisfactory arrangements for the exhumation and re-interment of the contents of such graves, at the cost of the applicant and in accordance with any regulations made by the responsible heritage resources
authority.

(5) SAHRA or a provincial heritage resources authority may not issue a permit for any activity under subsection (3)(b) unless it is satisfied that the applicant has, in accordance with regulations made by the responsible heritage resources authority

(a) made a concerted effort to contact and consult communities and individuals who by tradition have an interest in such grave or burial ground; and

(b) reached agreements with such communities and individuals regarding the future of such grave or burial ground.

(6) Subject to the provision of any other law, any person who in the course of development or any other activity discovers the location of a grave, the existence of which was previously unknown, must immediately cease such activity and report the discovery to the responsible heritage resources authority which must, in co-operation with the South African Police Service and in accordance with regulations of the responsible heritage resources authority

(a) carry out an investigation for the purpose of obtaining information on whether or not such grave is protected in terms of this Act or is of significance to any community; and

(b) if such grave is protected or is of significance, assist any person who or community which is a direct descendant to make arrangements for the exhumation and re-interment of the contents of such grave or, in the absence of such person or

community, make any such arrangements as it deems fit.

(7) (a) SAHRA must, over a period of five years from the commencement of this Act, submit to the Minister for his or her approval lists of graves and burial grounds of persons connected with the liberation struggle and who died in exile or as a result of the action of State security forces or agents provocateur and which, after a process of public consultation, it believes should be included among those protected under this section.

(b) The Minister must publish such lists as he or she approves in the Gazette.

(8) Subject to section 56(2), SAHRA has the power, with respect to the graves of victims of conflict outside the Republic, to perform any function of a provincial heritage resources authority in terms of this section.

(9) SAHRA must assist other State Departments in identifying graves in a foreign country of victims of conflict connected with the liberation struggle and, following negotiations with the next of kin, or relevant authorities, it may re-inter the remains of that person in a prominent place in the capital of the Republic.

12.2 General policy

47. (1) SAHRA and a provincial heritage resources authority—

(a) must, within three years after the commencement of this Act, adopt statements of general policy for the management of all heritage resources owned or controlled by it or vested in it; and

(b) may from time to time amend such statements so that they are adapted to changing circumstances or in accordance with increased knowledge; and

(c) must review any such statement within 10 years after its adoption.

(2) Each heritage resources authority must adopt for any place which is protected in terms of this Act and is owned or controlled by it or vested in it, a plan for the management of such place in accordance with the best environmental, heritage conservation, scientific and educational principles that can reasonably be applied taking into account the location, size and nature of the place and the resources of the authority concerned, and may from time to time review any such plan.

(3) A conservation management plan may at the discretion of the heritage resources authority concerned and for a period not exceeding 10 years, be operated either solely by the heritage resources authority or in conjunction with an environmental or tourism authority or under contractual arrangements, on such terms and conditions as the heritage resources authority may determine.

(4) Regulations by the heritage resources authority concerned must provide for a process whereby, prior to the adoption or amendment of any statement of general policy or any conservation management plan, the public and interested organisations are notified of the availability of a draft statement or plan for inspection, and comment is invited and considered by the heritage resources authority concerned.

(5) A heritage resources authority may not act in any manner inconsistent with any statement of general policy or conservation management plan.

(6) All current statements of general policy and conservation management plans adopted by a heritage resources authority must be available for public inspection on request.

13 APPENDIX 4: CV OF THE ARCHAEOLOGIST (Trust Mlilo)

PERSONAL INFORMATION

ID NUMBER	690710 6184 187				
TITLE	**Mr.**	**SURNAME**	**Mlilo**	**FIRST NAME**	**Trust**
GENDER	Male			**DATE OF BIRTH**	10 July 1969
CONTACT	**Email:** trust.mlilo@gmail.com; **Tel:** +27 (0) 11 037 1565 (Bus) | +27 71 685 9247 (Mobile)				
ADDRESSES	**Bus. Physical:** 65 Naaldehout Avenue, Heuweloord, Centurion, 0157 **C**ell: Fax: 086 652 9774 Web Site:www.sativatec.co.za				
QUALIFICATION: MA (ARCHAEOLOGY), BA Hons (Archaeology), [Univ. of Pretoria, Pretoria], PDGE, BA (Archaeology) UZ					

BRIEF PROFILE

Mr Trust Mlilo

Mr Trust Mlilo is the Archaeology/Heritage specialist at Sativa Travel and Environmental Consultants (Pty) Ltd. He is professional member of ASAPA and listed as an archaeologist and heritage specialist by Amafa aKwaZulu Natal and Eastern Cape Provincial Heritage Resources Agency (ECPHRA). Prior to joining SATIVATEC (Pty) Ltd, Trust Mlilo served as the Archaeologist and Heritage Manager at Nzumbululo Heritage Solutions (RSA Ltd.) [www.nzumbululo.com]. He has also collaborated in a number of archaeological and Heritage work with Siyathembana 293Trading (Pty) Ltd, Finishing Touch (Pty) Ltd, Vhubvo Archaeo Heritage (Pty) Ltd. And Integrated Specialist Services (Pty) Ltd. He is a professional heritage manager and research consultant with more than 15 years of practice and experience in archaeology, heritage management and education management. He has vast experience in Heritage Impact Assessments, Heritage induction, public consultations, monitoring and pre-construction heritage mitigation. He has worked as a researcher in Heritage development and nomination of heritage sites such as Nelson Mandela Legacy sites, Shembe sites and Delmas Treason Trial just to mention a few. He has attended and participated in several academic and professional symposiums and conferences.

Mr Mlilo has undertaken and assisted research teams in several projects in Sustainability, Energy & Environment (SEE); Environmental Health and Safety Solutions; Cultural Heritage Development (CHD) and Applied Socio-

Economic Research and Enterprise Development [RED]. His willingness to learn has seen him participate as a researcher and coordinator in research teams responsible, for example, in developing a Heritage Management Plans for O.R Tambo and Chris Hani memorial sites (2016) as well as the Nelson Mandela sites (2014 -2015), Integrated Development Planning (IDP) Environmental Toolkit (Mpumalanga Province [2011]), the Tourism Development Toolkit (Department of Environment and Tourism [2009]), etc. He is also effective in public engagements and consultations and has facilitated in massive grave relocation projects for several mining and infrastructure developments companies such as BHP Billiton 2013-2015 and Rhino Minerals 2009-2014 as well as Eskom and Road Agency Limpopo. He has conducted hundreds of Heritage Impact Assessment projects for Eskom minor reticulation projects in North West Province, KwaZulu Natal, Eastern Cape, Limpopo Province, Mpumalanga, Gauteng and the Free State Province as well as HIAs for various public and private developers (See SAHRIS website for HIA reports registered under Nzumbululo Heritage Solutions [Murimbika and Mlilo as the authors], Sativa and Integrated Specialist Services. The major highlight of his work was the Heritage Impact Assessment for the 700km, 765KV Gamma Kappa and Kappa Omega powerline in the Western Cape. Under Sativa Travel and Environmental Consultants, Mlilo served high profile companies such as GIBB, Afrimat, Eskom and Trans Africa Projects. Trust Mlilo has sound knowledge of heritage permit application processes and heritage mitigation processes. He is also effective in resource mobilization, team building and coordination. In addition, he has vast experience in project presentation and consultation.

EDUCATION

Institution [Date from - Date to]	Degree(s) or Diploma(s) obtained:
University of Pretoria 2013 - 2015	MA in Archaeology
University of Pretoria 2009 – 2010	BA Honours in Archaeology
University of Zimbabwe, 2000	Post Graduate Diploma in Education (History)
University of Zimbabwe (1991-1993)	BA Gen. (Archaeology, African Languages & Linguistics)

LANGUAGE PROFICIENCY (Good, Fair, Poor)

Language	Reading	Speaking	Writing
English	Good	Good	Good
Shona	Good	Good	Good
Ndebele	Good	Good	Fair
Zulu	Fair	Good	Fair
Tsonga	Good	Good	Good
Tshivenda	Poor	Fair	Poor
Sesotho	Poor	Fair	Poor
Setswana	Poor	Fair	Poor
Xhosa	Poor	Fair	Poor
Afrikaans	Beginner's stage		

SKILLS MATRIX

Current Skills levels:

1 Had appropriate training only	2 Limited practical experience	3 Solid practical experience	4 Well versed, extensive experience	5 Expert, extensive experience

Type of Experience	Experience In months	Date Last used	Skill level
Communication and Marketing	+120	Current	4
Inter-personal and inter-governmental liaison	+120	Current	3
Organizational skills	+120	Current	4
Coordination	+120	Current	5
Facilitation	+120	Current	5
Planning	+120	Current	4
People Management	+120	Current	4
Time Management	+120	Current	5
Computer literacy (MS Office, Project management software, MAC OS)	+120	Current	3
Project management	+120	Current	4

COMPUTER SKILLS:

- MS Operating System
  - Professional Level Competencies in MS Word, MS Excel, MS Power-point, PMS Publisher, and Internet.
- Mac Operating System
- Photoshop

ACADEMIC WORKS

- The challenges of cultural heritage management in South Africa: A focus on the Klasies River main site (Pending).

Title of Post-Graduate University Theses & Dissertations:

- **Master in Archaeology** (2013-2015), University of Pretoria) Management of the Klasies River main site along the Tsitsikamma Coast in the Eastern Cape Province.
- **BA Hons in Archaeology**. (2010, University of Pretoria): Comparison of conservation of archaeological sites under the jurisdiction of museums and sites in rural locations, the case BaKoni Malapa and Mahumane Late Iron Age sites in Limpopo Province.
- **Post Graduate Diploma in Education**. (2000, University of Zimbabwe): An assessment of attitudes towards use of media in the teaching of History in Secondary schools in Gweru, Zimbabwe

Selected Seminars, Lectures & Conference Papers

July 2014: Pan Africanist Archaeologist Conference. Johannesburg, South Africa Paper to be presented:

- *The challenges of heritage management in South Africa: A focus on the Klasies River main site.*

WORK & PROFESSIONAL EXPERIENCE

PERIOD: 2015 to Present: Archaeologist/Heritage Manager at Integrated Specialist Services (Pty) Ltd [Web Site: www.sativatec.co.za] and emerging consultancy with highly experienced Heritage, Palaeontology and Ecology/Biodiversity Specialists. Sativa (Pty) Ltd 's main focus is to provide quality specialist services in Environmental and Heritage Management. Sativa (Pty) Ltd team has successfully completed a significant number of projects and is looking forward to building its profile in both Environmental and Heritage Management. The major clients are Bigtime Strategic Group Science and Research, Afrimat, Trans Africa Projects, Kimopax, Mawenje Consulting and Road Agency Limpopo. The following is a list of selected projects completed at Sativa (Pty). Ltd

- **ESKOM**: HIA study for the household electrification infrastructure of the proposed 22kv powerline for Norlim-Taung (15km) and Norlim Dikhuting (13km) in the Buxton area (Taung World Heritage Site) Greater Taung Municipality, North West Province.

- **GIBB**: HIA for proposed Assen / Tambotie Mining Right Application for the development of the Assen / Tambotie mine in Madibeng Local Municipality of North West Province

- HIA for proposed Eskom 13,5km, 132kv Randfontein Northern Strategy Power line and associated substations in Mogale City and Rand West City Local Municipalities of Gauteng Province

- HIA for proposed Eskom 132kv Westgate.Tarlton Power line in Mogale City and Rand West City Local Municipalities of Gauteng Province: Archaeological and Heritage Impact Assessment Report

- Phase 1 Heritage Impact Assessment for Eskom's proposed 11.065km 22kV Phase 3 Ngqeleni Electrification in Nyandeni Local Municipality of Eastern Cape Province

- HIA for proposed Eskom Wolvekrans Substation and 132kv Powerline in Mogale City and of Gauteng Province:

- HIA for Proposed Zandriviers Drift Mining Right Application in Madibeng Local Municipality of North West Province

- Phase 1 Heritage Impact Assessment for Eskom's proposed KwaZamoxolo normalization power line development at Noupoort in Umsobomvu Local Municipality, Northern Cape Province.

- Phase 1 Heritage Impact Assessment for Eskom's proposed 0.659km 22kv Murraysburg powerline move in the Pixley Ka Seme District Municipality, Northern Cape Province

- A Phase 1 Heritage Impact Assessment for the proposed, Tubatse Special Economic Zone in Burgersfort, Limpopo, under the jurisdiction of the Greater Tubatse Local Municipality of Limpopo Province.

- A Phase 1 Heritage Impact Assessment for the proposed construction of a new 20ML/D Pump station and bulk water pipeline in Middleburg, Steve Tshwete Local Municipality in Province.

- A Phase 1 Heritage Impact Assessment for the proposed 5.5km 88kV power line and substation in Johannesburg Metropolitan Municipality, Gauteng Province.

PERIOD: 2008 to 2014: Archaeologist and Heritage Manager – Nzumbululo Holdings Limited [www.nzumbululo.com] (dynamic and market-leading consultancy providing innovative solutions in Applied Social-Economic Research and Enterprise Development services, Cultural Heritage Development, Sustainability, and Energy & Environment, Environmental Health and Safety).

Specialist Responsibilities: Assist in Project Management, fieldwork, community consultation and report compilation.

- Researcher for heritage and cultural landscape management projects that involve cultural resources management, heritage conservation management planning, heritage and environmental impact assessment, basic assessment, project management, public participation coordination, predevelopment planning specialists input coordination and liaison with compliant agencies such as government departments.

CORPORATE RESPONSIBILITIES

None

SPECIALIST POSITIONS AND PROFFESSIONAL CONSULTANCY EXPERIENCE

2007 - 2014 Archeological and Heritage Impact Assessment Studies

Have participated in phase 1 (scoping studies) to Phase 2 and 3 heritage and archeological impact assessment studies (mitigation excavations, rescue or salvage excavation and monitoring studies) for infrastructural developments including, powerlines, roads and other developments. The HIA and AIA portfolio during this period amounts to more than 300 projects across all nine provinces of South Africa and neighboring countries with an estimated value in excess of Million Rands in professional specialist's fees and billions in associated project budgets.

January 2008 – 2014: Environmental and Heritage Impact Assessment Study for Eskom SOC Limited 765kV Powerline Development Northern to Western Cape Provinces.

Field Archaeologist and Assistant Heritage Manager: Environmental Authorisation (EIA) and Heritage Impact Assessment (HIA) studies for Eskom SOC Transmission Gamma-Kappa & Kappa-Omega 765kV Powerlines Development in Northern & Western Cape Provinces in South Africa 2012-14. The Field archaeologist and heritage manager responsibilities involve coordinating a team of 4 (Archaeology, Palaeontology, Visual and Cultural Landscapes and Built Environment). This power transmission project is one of the largest and strategic transmission projects Eskom has ever embarked on in the past two decades.

July 2011 – March 2012: Research, Design and Development of the Delmas Treason Trials Commemorative Monument Project at Delmas Magistrate's Court, Mpumalanga Province.

Project Heritage Manager and Research Assistant for archival, oral and historical research on the 1985-1989 Delmas 22 and 1989 Delmas 4 Treason Trials (the last of the infamous apartheid treason trials). The project entails detailed legal history on treason trials, conceptualise, design and develop and commission a public commemorative monument in honour of the treason Trialists. Hundreds of hours of digital recordings of interviews with legal struggle icons such as George Bizos, the late Justice Arthur Chaskalson, Advocate Gcina Malindi, Justice Yacob, former Premier Popo Molefe and all surviving Delmas trialists and their families were collected, project report was generated and South Africa's first monument dedicated to commemoration of treason trials was developed and unveiled in March 2012 at Delmas Court in Delmas Town, Mpumalanga.

2009 – October 2010: eThekwini Metropolitan Shembe Baptist Nazareth Church Cultural Landscape Project

Commissioned by the eThekwini Metro Council as **Assistant Heritage Manager and Research Assistant** for the eThekwini Metropolitan Shembe Baptist Nazareth Church Cultural Landscape Project. The project involved conducting historical research into the evolution of Shembe Church, one of Africa's older and continuous independent churches that were founded by Isaiah Shembe in 1910. The second object was to propose, nominate the Shembe Cultural Landscape as Provincial Heritage Site under the protection of provincial and national heritage laws. The project closed with development of the cultural heritage Conservation Management Plan and nomination of Shembe cultural Landscape as Provincial Heritage Site (Nomination Approved by the KwaZulu Natal Provincial Heritage Council (Amafa Council) on October. 18 2010).

2008- 2009: Mpumalanga Province Greening, Heritage and Greening Mpumalanga Flagship Program Management Unit [PMU]

Research Assistant (Heritage) for the Mpumalanga Provincial Government commissioned Mpumalanga Province Greeting, Heritage and Greening Mpumalanga Flagship Program Management Unit [PMU]. Mr Mlilo assisted in archaeological and heritage components of the project.

AUXILIARY PROFESSIONAL EXPERIENCE

1996-2006: 'O' and "A" Level History Examiner (Ministry of Education in collaboration with Cambridge University, UK).

AUXILLIARY SPECIALIST SKILLS

Key Management skills

- Applied Environment & Heritage Management Research
- Sustainable development programmes assessment.
- Project Management
- Adult Education

Other skills

- Performance management
- Public Finance Management
- School administration and teaching
- Professional Archaeologist.

PROFESSIONAL AFFILIATIONS

- **Member of Association of Southern African Professional Archaeologists** (ASAPA) No.396. Accredited by Amafa akwaZulu Natali and Eastern Cape Provincial Heritage Agency

REFEREES

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