PHASE 1 ARCHAEOLOGICAL AND HERITAGE IMPACT ASSESSMENT REPORT FOR THE PROPOSED MINING RIGHT APPLICATION ON VARIOUS PORTIONS OF THE FARM KAPSTEWEL 436 WITHIN TSANTSABANE LOCAL MUNICIPALITY, ZF MGCAWU DISTRICT MUNICIPALITY IN THE NORTHERN CAPE PROVINCE

DATE: 12 APRIL 2022

Document Information

Item	Description
Proposed development and location	Proposed mining right application on various portions of the Farm Kapstewel 436 within Tsantsabane Local Municipality, ZF Mgcawu District Municipality, in the Northern Cape Province.
Purpose of the study	To carry out an archaeological and Heritage Impact Assessment to determine the presence/absence of cultural heritage sites and the impact of Proposed Mining Right Application.
Coordinates	See Table and Figure 3
Municipalities	Tsantsabane Local Municipality, under ZF Mgcawu District Municipality
Predominant land use of surrounding area	Agriculture, residential and mining
Applicant	Genet Manganese (Pty) Ltd
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Author	Trust Mlilo (Archaeology and Heritage Specialist)
Date of Report	10/05/ 2022

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, MA. (Archaeology), BA Hons, PDGE and BA & (Univ. of Pretoria) ASAPA (Professional member) with 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 a 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 the government, parastatals (Eskom) and several private companies such as BHP Billiton/South32, Afrimat, Rhino Minerals and GIBB.

Independence

The views expressed in this document are the objective, independent views of Mr Trust Mlilo and the survey was carried out under NDI Geological Consulting Services (Pty) Ltd. Integrated Specialist Services (Pty) Ltd has no business, personal, financial or other interest in the proposed development project 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 the 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 becomes known to the author from on-going 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 NDI Geological Consulting Services (Pty) Ltd. This also refers to electronic copies of the report which are supplied for 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 the 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).

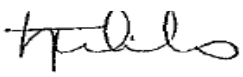
Geographic Co-ordinate Information: Geographic coordinates in this report were obtained using a hand-held Garmin Global Positioning System device. The manufacturer states that these devices are accurate to within +/- 5 m.

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 authorisation of the proposed Mining Right Application being proposed by Genet Manganese (Pty) Ltd.

Signed by



12/ 04/ 2022

EXECUTIVE SUMMARY

Integrated Specialist Services (Pty) Ltd was tasked by NDI Geological Consulting Services (Pty) Ltd on behalf of Genet Manganese (Pty) Ltd to carry out a Phase 1 Archaeological Impact Assessment for the proposed Mining Right Application on various Portions of the Farm Kapstewel 436 within Tsantsabane Local Municipality, ZF Mgcawu District Municipality, Northern Cape Province. The study was conducted to fulfil the requirements of Section 38 of the National Heritage Resources Act 25 of 1999. The general project area is predominantly mining and stock farming. The study aims to identify and document archaeological sites and any heritage resources that may be affected by the proposed mining development. This will in turn assist the applicant and contractors to ensure proper conservation measures in accordance with the National Heritage Resource Act, 1999 (Act 25 of 1999). The findings of this study have been informed by a desktop study and field survey within the proposed development sites. The desktop study was undertaken through SAHRIS in search of previous Cultural Heritage Impact Assessment studies conducted in the region and Postmasburg in particular as well as systematic archaeological research that has been carried out in the project area over the past years.

Archaeological Resources in the general project area stretch into deep time starting with australopithecines. These australopithecines were gradually displaced by early hominid (Homo Habilis) that was later replaced by the early crude stone tool using hominid (Homo erectus around 1.8 million years ago). This marked the beginning of the Stone Age (ESA), which is not very widespread in the study area. Nonetheless, the area has isolated occurrences of the Middle Stone Age (MSA) industries associated with anatomically modern humans, Homo sapiens that replaced the ESA around 250000 years ago. The subsequent replacement of the MSA by the Later Stone Age (LSA) occurred about 20000 years ago and the new technology is also represented in isolated occurrences. The LSA triggered a series of technological innovations and social transformations within these early hunter-gatherer societies that included the advent of rock art (paining and engravings), associated with the Khoisan communities.

Receiving Environment

The proposed mining site is located in a partially disturbed landscape owing to previous and current land use activities such as agriculture, mining and roads (see Figure 1).

2. Impact statement

The proposed mining has the potential to disturb archaeological remains although limited. It is important to note that all categories of heritage resources are generally known to occur in the wider area where the proposed development site is located. The presence of stockpiled soils and debris as a result of mining activities will have a moderate visual impact on pass-by motorists along the Road R325, and this impact will last for the lifespan of this proposed mining site. However, this is not addressed in this report in detail.

3. Restrictions and Assumptions

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 beneath the surface. Should artefacts or skeletal material be revealed at the site during mining, such activities should be halted immediately, and a competent heritage practitioner, SAHRA or PHRA 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.

4. Site-Location Model

This report employed a site-location model championed by Maggs (1980). The model suggests that inland sites will be found in locations which bear the following:

- Limited to below an altitude of 1000 m asl;
- Situated on the riverside or streamside locations, on deep alkaline colluvial soils; and
- In areas appropriate for dry farming (with sufficient summer rainfall).

5. Background study

The closest town to the proposed development is Postmansburg which is located approximately 15km east of the site, while the prehistory of this region spans over a thousand years, the history of the Town of Postmasburg extends for over a century, as such the town itself is a heritage arena and bear many signatures of the past (see Figure 1).

6. Survey findings

The Phase I Archaeological Impact Assessment for the proposed mining right application site did not identify any significant archaeological heritage within the mining right site to warrant abandonment of the site. The study encountered isolated lithic tools in secondary deposition sites.

7. Recommendations

The proposed mining may proceed as planned subject to the following recommendations:

The applicant is reminded that should any archaeological material be unearthed accidentally during prospecting, SAHRA **must** be alerted immediately, and mining activities be stopped within a radius of at least 10m of such

indicator. The area should then be demarcated by a danger tape. Accordingly, a professional archaeologist should be contacted immediately. In the meantime, it is the responsibility of the Environmental Officer and the contractor to protect the site from publicity (i.e., media) until a mutual agreement is reached. It is mandatory to report any incident of human remains encountered to the South African Police Services, SAHRA staff members and professional archaeologists. Any measure to cover up the suspected archaeological material or to collect any resources is illegal and punishable by law under Section 35(4) and 36(3) of the National Heritage Resources Act, Act 25 of 1999. The applicant should induct field workers about archaeology, and steps that should be taken in the case of accidentally exposing archaeological materials.

8. Should Mining work commence for this project

- The mining teams should be inducted on the significance of the possible archaeological material that may be encountered during subsurface clearance and mining work. It should be noted that the applicant must induct field workers about archaeology, and steps that should be taken in the case of exposing materials;
- The applicant should take note that, only the site demarcated for mining was surveyed, and that the mining team should work within such an area. Any attempt to alter beyond the surveyed area will be illegal, and SAHRA might take legal steps against the applicant.

9. Conclusions

A thorough background study and survey of the proposed mining right application site was conducted, and findings were recorded in line with SAHRA guidelines. In accordance with the recommendations above, there are no major archaeological reasons why the proposed mining rights application should not be approved. Thus, it is recommended that the proposed mining proceeds on the condition that the recommendation indicated above are adhered to. Note that this report as well as its recommendations are inadequate without comments from SAHRA.

Acknowledgements

The author acknowledges NDI Geological Consulting Services (Pty) Ltd for their assistance with project information and for responding to technical queries related to the project. Specials thanks go to landowners who provided access and vital information about the study area.

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ABBREVIATIONS

AIA	Archaeological Impact Assessment
ECO	Environmental Control Officer
EAP	Environmental Assessment Practitioner
EIA	Environmental Impact Assessment
EM	Environmental Manager
EMP	Environmental Management Plan
HIA	Heritage Impact Assessment
LIA	Late Iron Age
NHRA	Nation Heritage Resources Act, Act 25 of 1999
PM	Project Manager
PHRA	Provincial Heritage Agency
SM	Site Manager
SAHRA	South African Heritage Resources Agency

KEY CONCEPTS AND TERMS

Periodization Archaeologists divide the different cultural epochs according to the dominant material finds for the different 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 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 of 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 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 sites/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 materials 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 another 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, and 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

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1 INTRODUCTION

Background

Most heritage sites occur within communities, whose development should not be neglected in the name of heritage preservation but should be encouraged and embraced within legal and adaptive management frameworks (Carter and Grimwade 1997; Salafsky *et al* 2001). This case is true for the mining project area, which may host palaeontological, archaeological, historical, natural, and contemporary heritage resources. Genet Manganese (Pty) Ltd is applying for a mining right on various Portions of the Farm Kapstewel 436 within Tsantsabane Local Municipality, ZF Mgcawu District Municipality, Northern Cape Province. Previous heritage studies (Kusel *et al* 2009, Webley 2012, Orton 2013, 2016, 2017, Morris 2010a, 2010b, 2010c, Webley &Halket 2012, Kaplan 2012a, 2012b) mention the occurrence of significant heritage resources in parts of the region under which the proposed project site is located.

The purpose of this Archaeology and Heritage Study is to assess the presence/absence of heritage resources on the proposed mining right application site. The study was designed to ensure that any significant archaeological or cultural physical property or sites are located and recorded, and site significance is evaluated to assess the nature and extent of expected impacts from the proposed mining. The assessment includes recommendations to manage the expected impact of the proposed mining. The report includes recommendations to guide heritage authorities in making the appropriate decision with regard to the environmental approval process for the mining rights application. The report concludes with detailed recommendations on heritage management associated with the mining rights application. Integrated Specialist Services (Pty) Ltd (ISS), an independent consulting firm, conducted an assessment; research and consultations required for the preparation of the archaeological and heritage impact report in accordance with its obligations set in the NHRA as well as the environmental management legislations.

In line with SAHRA guidelines, this report, not necessarily in that order, provides:

1) Management summary
2) Methodology
3) Information with reference to the desktop study
4) Map and relevant geodetic images and data
5) GPS co-ordinates
6) Directions to the site
7) Site description and interpretation of the cultural area where the project will take place
8) Management details, description of affected cultural environment, photographic records of the project area
9) Recommendations regarding the significance of the site and recommendations regarding further monitoring of the site.
10) Conclusion

Description of the proposed project.

Midtron Minerals (Pty) Ltd is applying for a mining right, on various Portions of the Farm Kapstewel 436 within Tsantsabane Local Municipality, ZF Mgcawu District Municipality, in the Northern Cape Province triggering the basic assessment process of the HIA/AIA regulations. These mining works are divided into 3 phases which are explained in detail below;

PHASE 1: Operational/ Mining Phase

The proposed development entails mining the ore through the conventional opencast mining method. Each mining area will be treated separately with the choice of mining method largely affected by the nature and geology of the ore deposit in the mine. Access to the opencast mining areas will be provided by a number of haul roads to the crushing, screening and magnetic separation plants for the minerals. The mining process will include drilling, blasting, loading and hauling.

Drilling

This phase of drilling will consist of an RC drill. RC drilling involves the process of blasting and crushing the rock material into fragments. A typical drilling pattern is a 4m x 4m grid, and the depth of the hole will be determined by the thickness of the overburden and orebody.

Blasting

The quantities of explosives are determined by the purposes of the blasting and the nature of the materials to be blasted.

Loading

The applicant will utilize excavators and FELs to load the minerals onto the dump trucks and ADTs. Waste and Roms will be loaded separately onto different trucks and hauled to designated areas.

Hauling

Minerals will be hauled to either mobile plants or at a later stage to fixed plants. The waste materials will be hauled to the designated dumps or hauled to mined out areas for backfilling purposes.

PHASE 2: Processing

The Ore <600mm is fed to the primary JAW crusher where ore is crushed down to 140mm. Ore is then fed to the primary cone crusher where it is crushed down to 25mm. From here the ore is fed to the secondary cone crusher where it is crushed down to -15mm. The ore is then fed to a vibrating three deck screen. The first deck separates

the -25mm +15mm material from the +25mm material. The +25mm material is conveyed back to the secondary cone crusher for re-crushing. The second deck screens out the -15mm +6mm material and the third deck screens out the -6mm material. The -25mm +15mm and -15mm +6mm ore go through a dry magnetic separation process. The -6mm ore goes through another magnetic separation process. After this process, there are three stockpiles, each consisting of a different size.

Quality control

The chemical quality of the final products is partly controlled by supplying the plant with a suitable mixture of run-of-mine ore. Samples are taken at regular intervals from the manganese ore that has been crushed and screened and chemically analyzed at the onsite laboratory to ensure that the final product contains the correct silica, potassium oxide, phosphorus, and sulphur and alumina content. A comprehensive record shall be kept of the sample analyses. The manganese ore that has been processed in the crushing and screening plant will be put through the magnetic separating plant to ensure that the final product's grade adheres to the customer specifications.

Magnetic Separation

Magnetic separation is a process in which magnetically susceptible material is extracted from a mixture using a magnetic force. This separation technique can be useful in mining iron and manganese as it is attracted to a magnet. Magnetic separation is one of the most reliable ways to remove unwanted ferrous metals by adjusting the strength of the magnetic separators. All materials possess magnetic properties. Substances that have a greater permeability than air are classified as paramagnetic; those with a lower permeability are called diamagnetic. Paramagnetic materials are attracted to a magnet; diamagnetic substances are repelled. Very strongly paramagnetic materials can be separated from weakly or nonmagnetic materials by the use of low-intensity magnetic separators. Minerals such as hematite, limonite, and garnet are weakly magnetic and can be separated from non magnetics by the use of high intensity

PHASE 3: Closure

Waste Management

The waste that is screened out is dumped on a temporary tailings stockpile from where waste is either used for back-filling of excavations or hauled to the waste rock dump. Throughout the production process, at various times during the mining of the ore and from the stockpiles after the plant process, the ore is sampled and analysed in order to maintain the correct manganese grade.

The following section provides a detailed description of the proposed mining right application site.

Location of the proposed development

The proposed project is located on the outskirts of Postmasburg along the R325 road between Postmasburg and Kathu in the Northern Cape Province. The mining right application site is situated approximately 15km north of the town of Postmasburg, and approximately 40km southeast of the town of Olifantshoe.

Table 1: Property details

FARM NAME	PORTION	21-DIGIT SURVEYOR GENERAL CODE	COORDINATES
Farm Kapstewel 436	3 (RE)	C03100000000043600003	28°10'25.04S, 23°5'49.87E
Farm Kapstewel 436	5	C03100000000043600005	28°9'19.79S, 23°6'21.45E
Farm Kapstewel 436	RE	C03100000000043600000	28°7'47.94S, 23°6'43.87E

Figure 1: Locality Map of Kapstewel (NDI Geological Consulting Services (Pty) Ltd 2022)

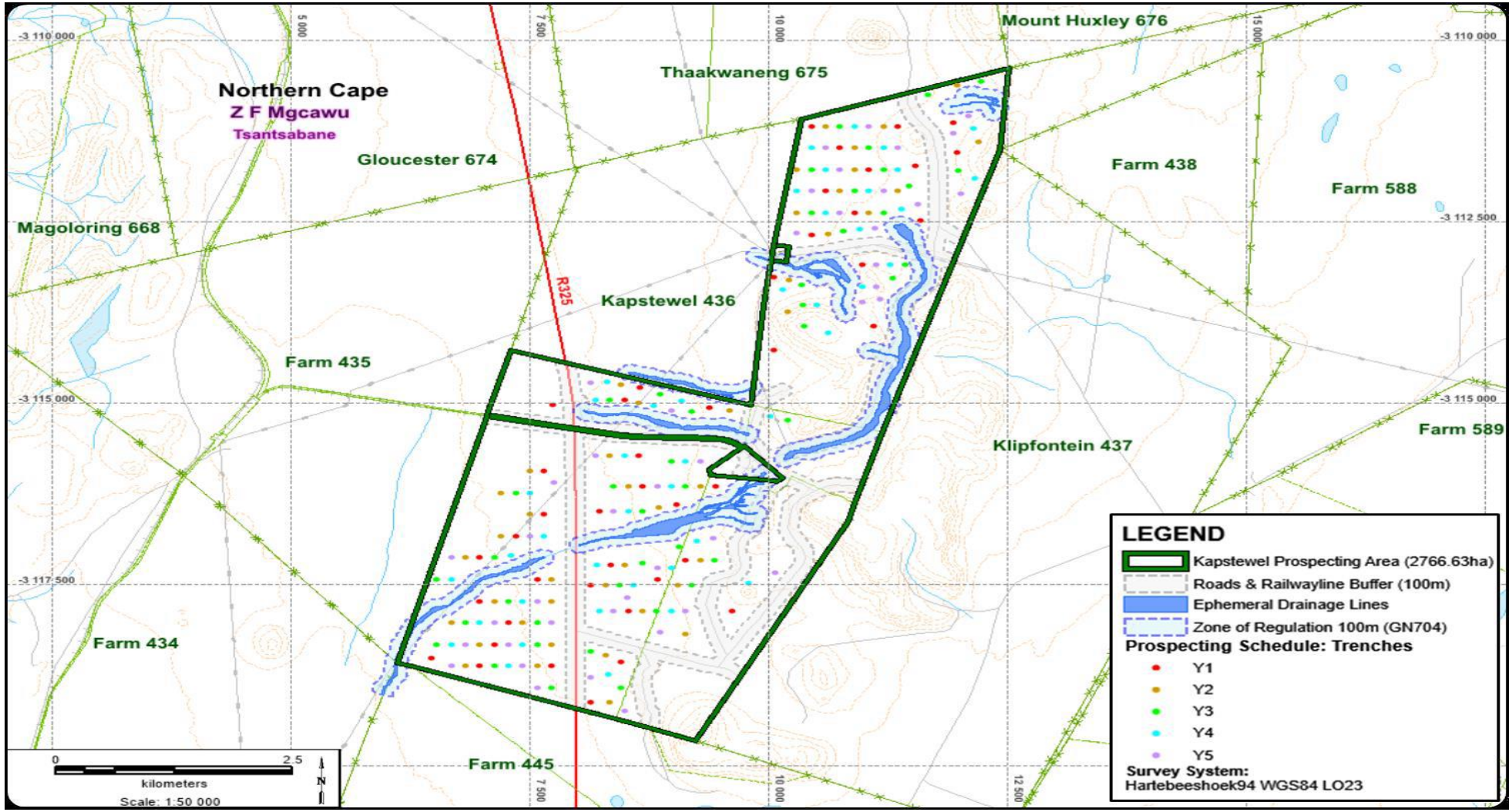

Figure 2: Proposed mining right application site (NDI Geological Consulting Services (Pty) Ltd 2022)

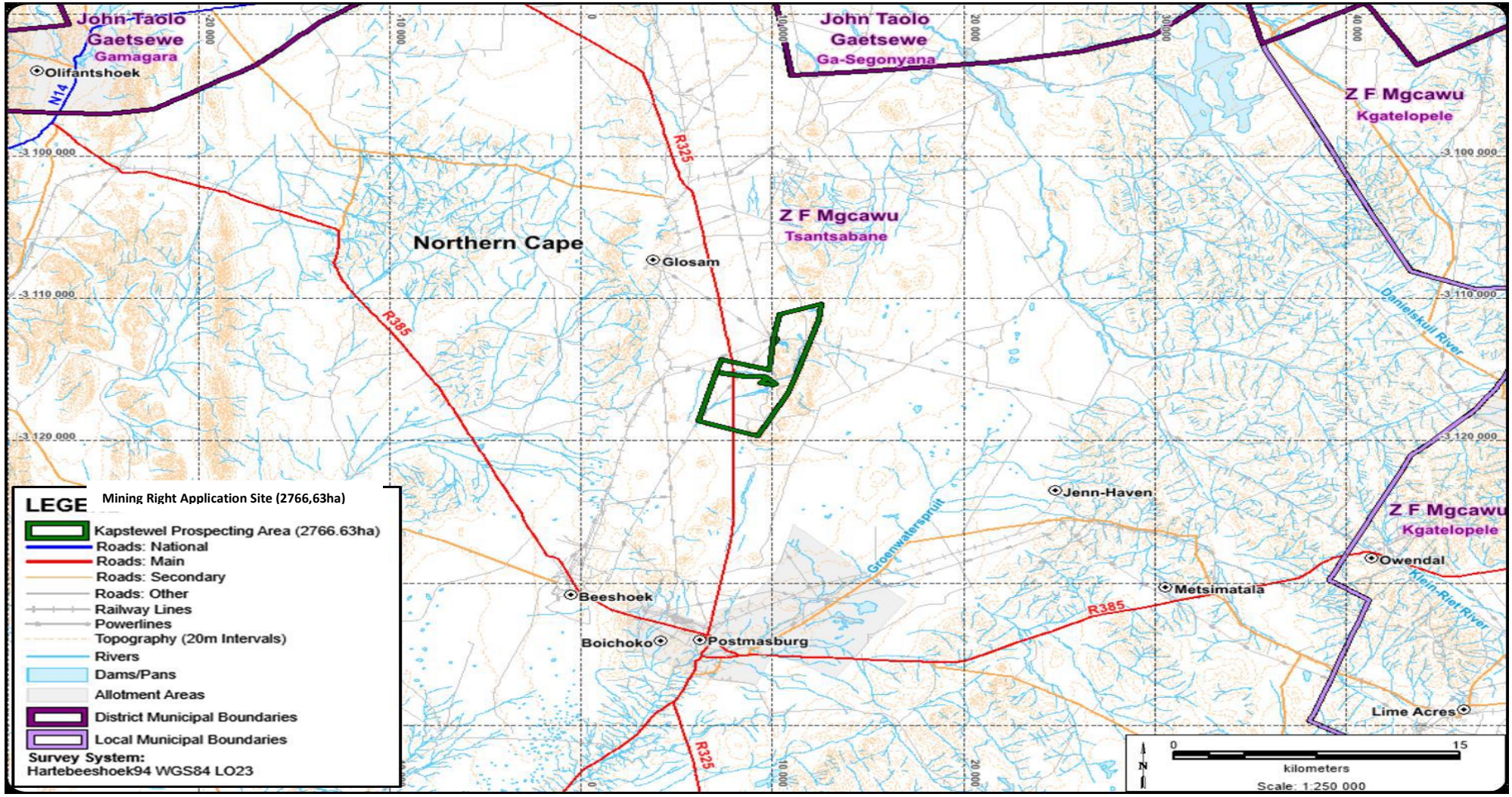

Figure 3: Locality of the proposed mining right application site (NDI Geological Consulting Services (Pty) Ltd 2022)

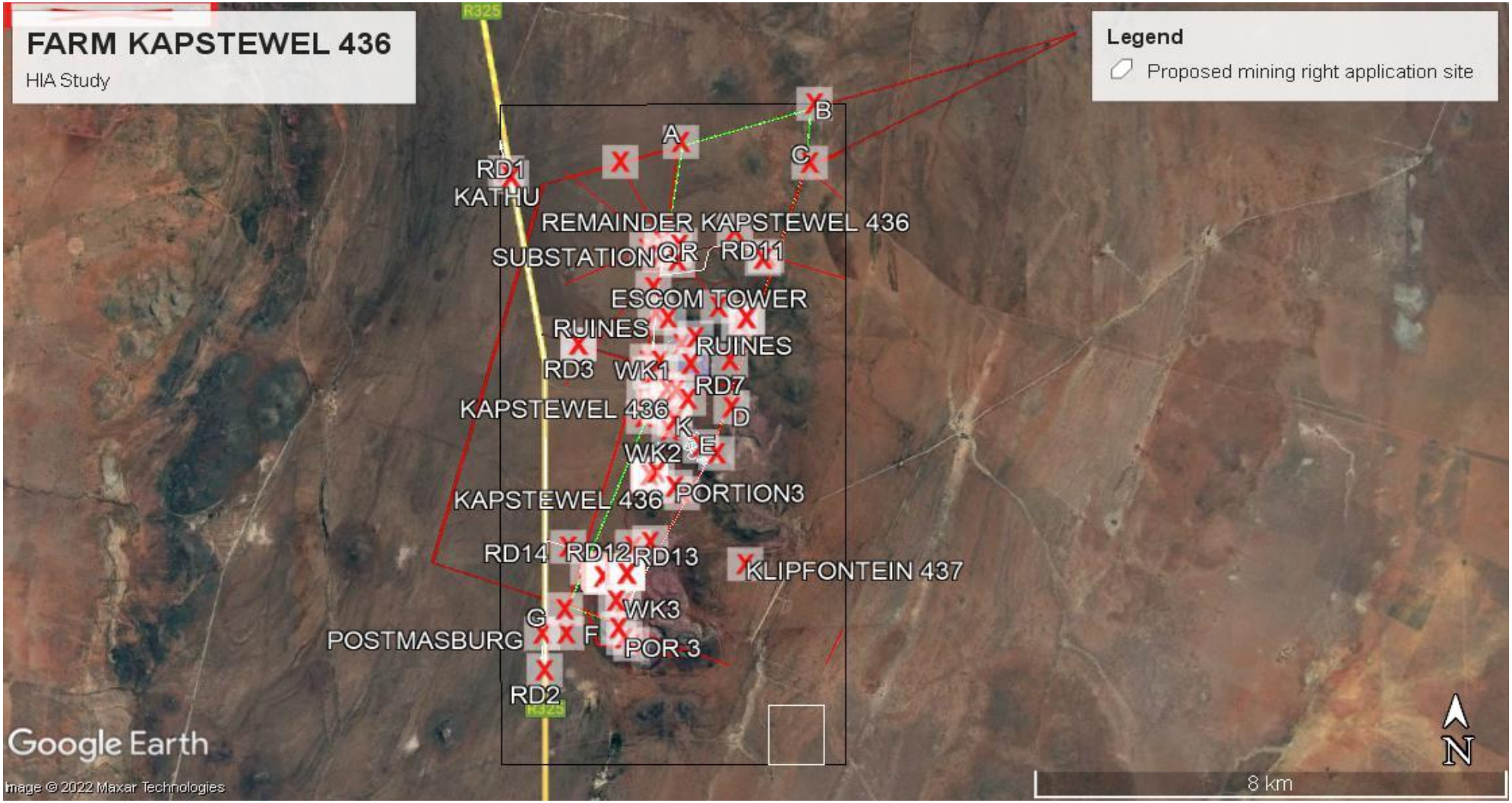

Figure 4: Showing the base plan of the proposed mining right application site (Integrated Specialist Services (Pty) Ltd 2022)

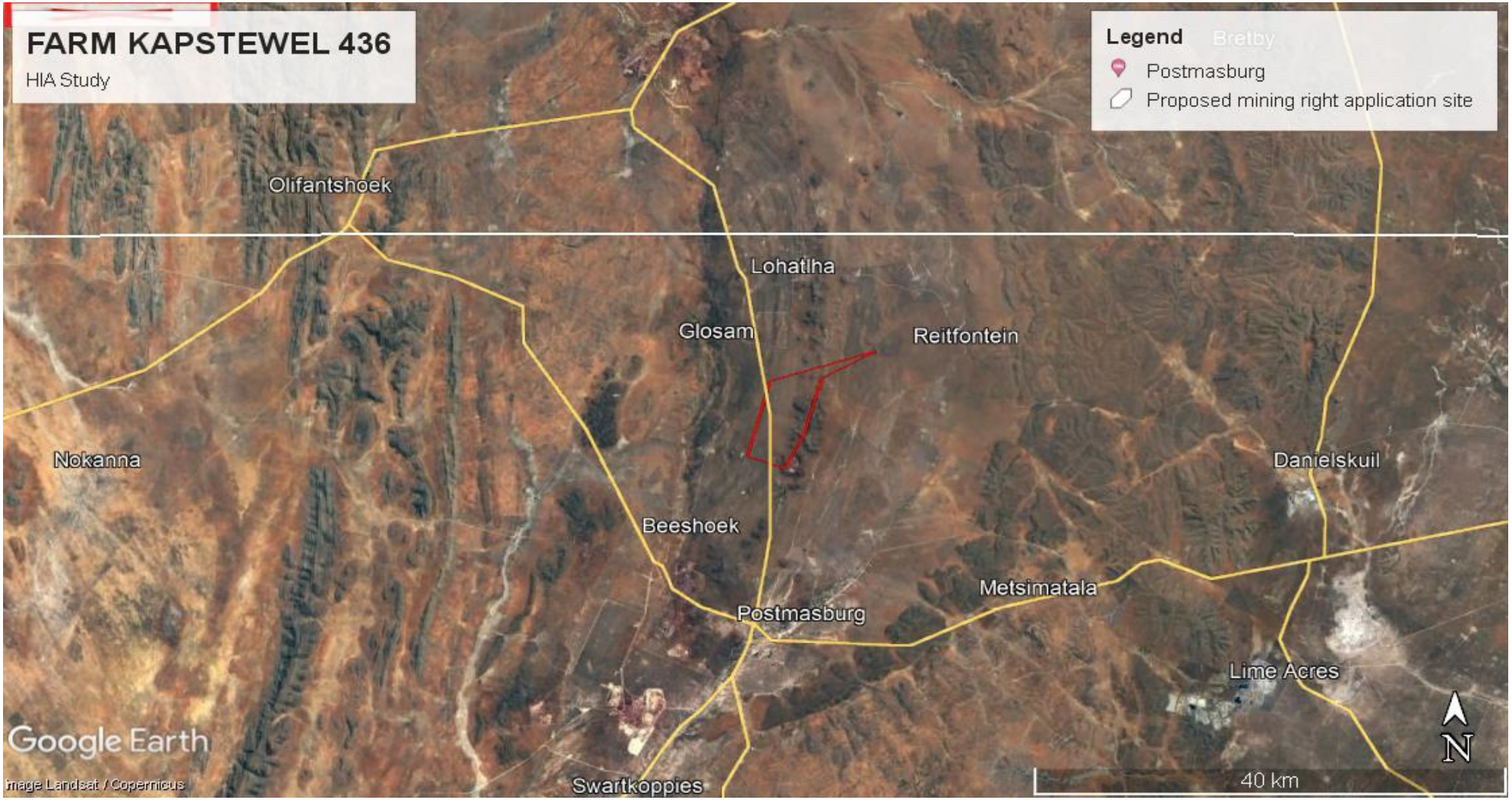

Figure 5: Locality of the proposed mining right application site (Integrated Specialist Services (Pty) Ltd 2022)

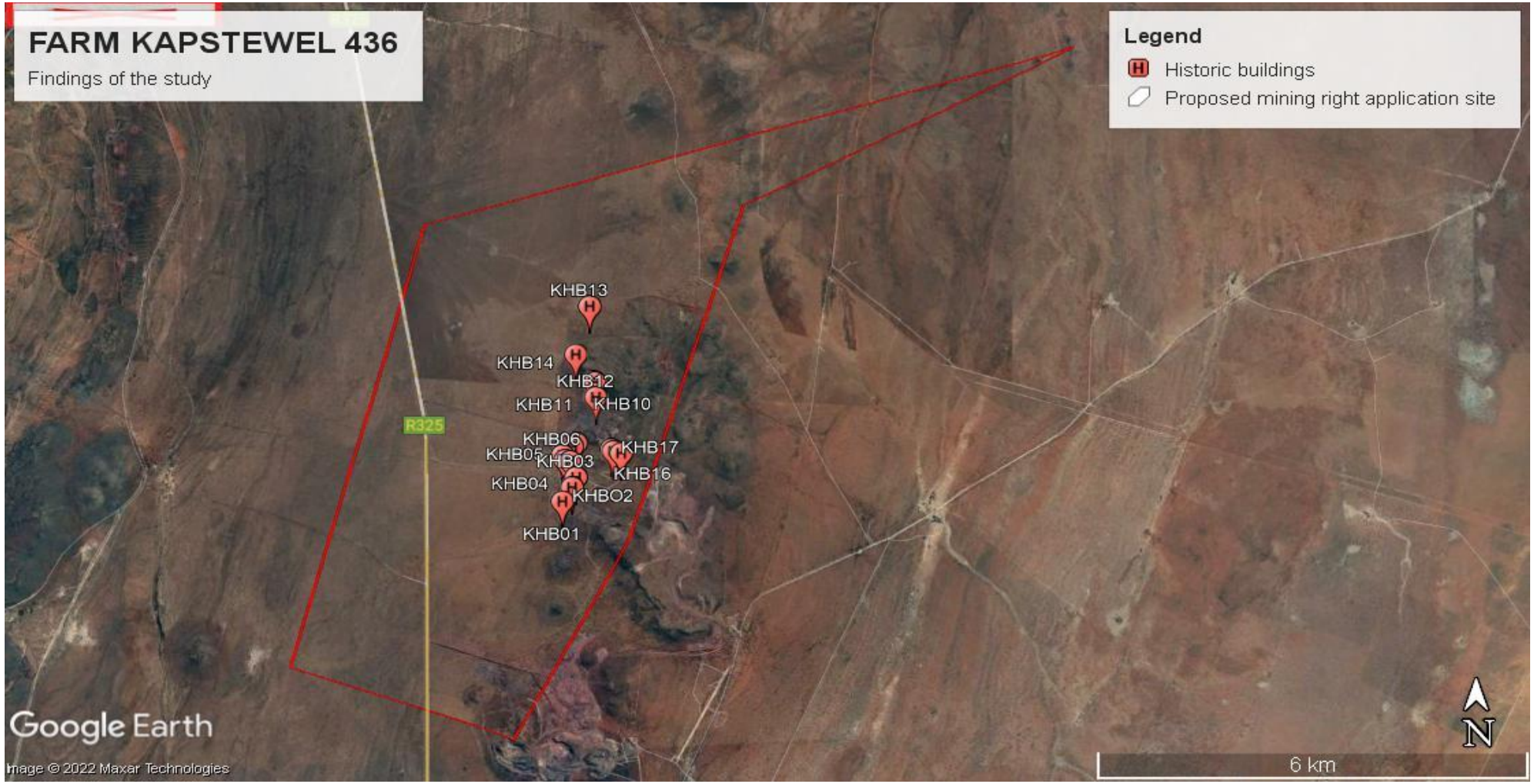

Figure 6: Locality of the proposed mining site (Integrated Specialist Services (Pty) Ltd 2022)

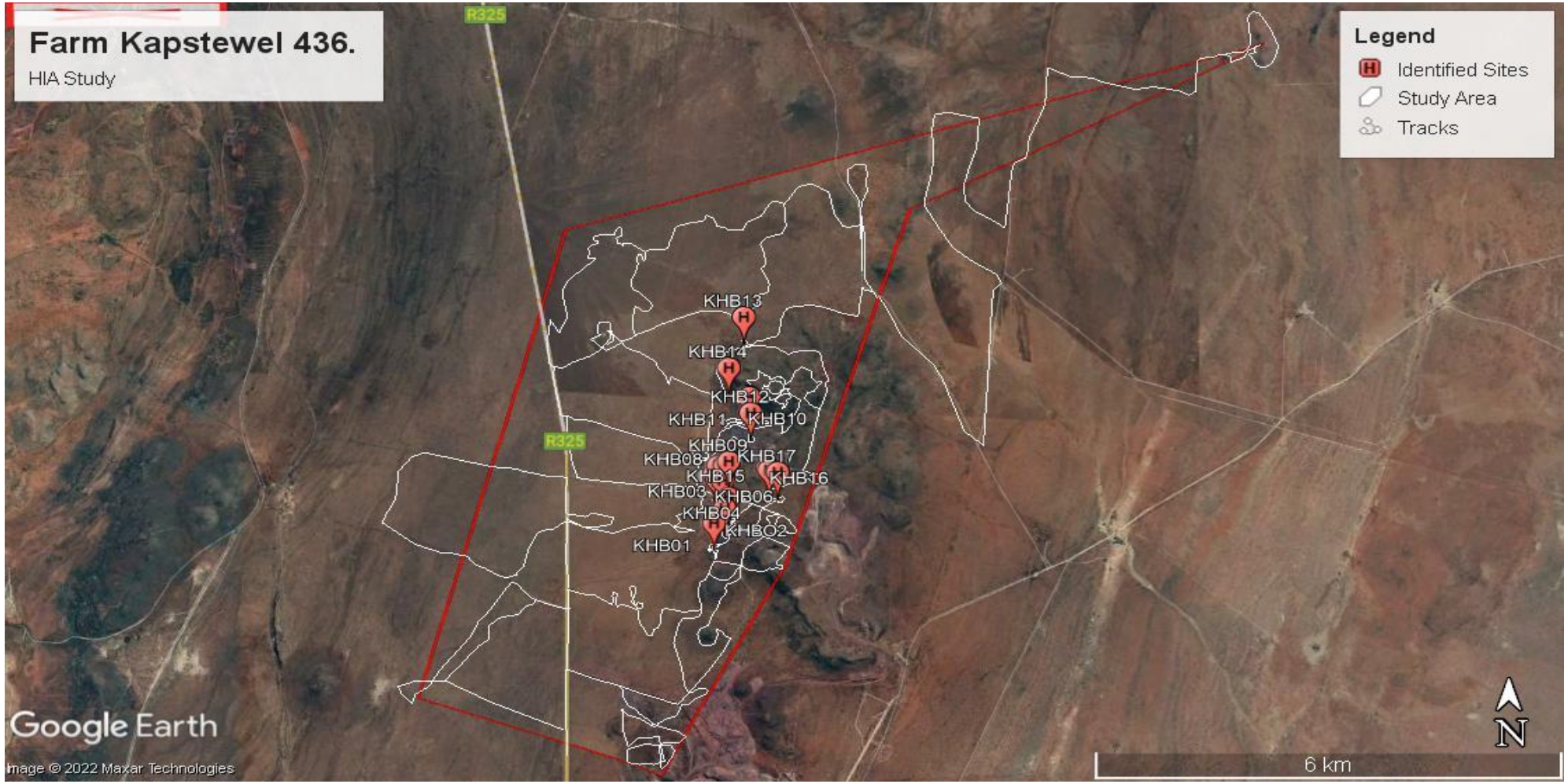

Figure 7: Locality of the proposed mining site and tracklogs (Integrated Specialist Services (Pty) Ltd 2022)

2 LEGAL REQUIREMENTS

Relevant pieces of legislation to the present study are presented here. Under the National Heritage Resources Act, 1999 (Act 25 of 1999) (NHRA), Mineral and Petroleum Resources Development Act, 2002 (Act 28 of 2002), and the National Environmental Management Act, 1998 (Act 107 of 1998) (NEMA) and 2014 Regulations, an AIA or HIA is required as a specialist sub-section of the EIA.

Heritage management and conservation in South Africa is governed by the NHRA and falls under the overall jurisdiction of the SAHRA and its PHRAs. Different sections of the NHRA are relevant to this study. The proposed development is a listed activity in terms of Section 38 of the NHRA which stipulates that the following development categories require an HIA to be conducted by an independent heritage management consultant:

- Construction of a road, wall, **powerline**, pipeline, canal or other linear forms of development or barrier exceeding 300m in length
- Construction of bridge or similar structure exceeding 50m in length
- Development or other activity that will change the character of a site -
  - Exceeding 5000 sq. m
  - Involving three or more existing erven or subdivisions
  - Involving three or more erven or divisions that have been consolidated within the past five years
  - Rezoning of site exceeding 10 000 sq. m
  - The costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority
- Any other development category, public open space, squares, parks, recreation grounds

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 NHRA also requires the submission of a heritage impact assessment report for authorization purposes to the responsible heritage resources agencies (SAHRA/PHRAs).

Related to Section 38 of the NHRA are Sections 34, 35, 36 and 37. Section 34 stipulates that no person may alter, damage, destroy, relocate etc. any building or structure older than 60 years, without a permit issued by SAHRA or a provincial heritage resources authority. 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 SAHRA or PHRA

(the relevant PHRA), who will assist in investigating the extent and significance of the finds and inform 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 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 the case of the discovery of chance burials, which is unlikely. The procedure for reporting chance finds also applies to the likely discovery of burials or graves by the developer or contractors. Section 37 of the NHRA deals with public monuments and memorials which exist in the proposed project area.

In addition, the new EIA Regulations (4 December 2014) promulgated in terms of NEMA (Act 107 of 1998) determine that any environmental 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 Specialist Studies in this regard. The end purpose of such a report is to alert the applicant, SAHRA or PHRA and interested and affected parties about existing heritage resources that may be affected by the proposed mining right application and to recommend mitigatory measures aimed at reducing the risks of any adverse impacts on these heritage resources.

Assessing the Significance of Heritage Resources

The appropriate management of cultural heritage resources is usually determined based on their assessed significance as well as the likely impacts of any proposed developments. Cultural significance is defined in the Burra Charter as meaning aesthetic, historic, scientific, or social value for past, present, or future generations (Article 1.2). Social, religious, cultural, and public significance are currently identified as baseline elements of this assessment, and it is through the combination of these elements that the overall cultural heritage values of the site of interest, associated place or area are resolved.

Not all sites are equally significant and not all are worthy of equal consideration and management. The significance of a place is not fixed for all time, and what is considered of significance at the time of assessment may change as similar items are located, more research is undertaken, and community values change. This does not lessen the value of the heritage approach but enriches both the process and the long-term outcomes for future generations as the nature of what is conserved and why also changes over time (Pearson and Sullivan 1995:7). This assessment of the Indigenous cultural heritage significance of the Site of Interest as its environments of the study area will be based on the views expressed by the traditional authority and community representatives, consulted documentary review and physical integrity.

African indigenous cultural heritage significance is not limited to items, places or landscapes associated with pre-European contact. Indigenous cultural heritage significance is understood to encompass more than ancient archaeological sites and deposits, broad landscapes, and environments. It also refers to sacred places and story sites, as well as historic sites, including mission sites, memorials, and contact sites. This can also refer to modern sites with resonance to the indigenous community. The site of interest considered in this project falls within this realm of broad significance.

Archaeological sites, as defined by the National Heritage Resources Act (Act 25 of 1999) are places in the landscape where people once lived in the past – generally more than 60 years ago – and have left traces of their presence behind. In South Africa, archaeological sites include hominid fossil sites, places where people of the Earlier, Middle and Later Stone Age lived in open sites, river gravels, rock shelters and caves, Iron Age sites, graves, and a variety of historical sites and structures in rural areas, towns and cities. Palaeontological sites are those with fossil remains of plants and animals where people were not involved in the accumulation of the deposits. The basic principle of cultural heritage conservation is that archaeological and other heritage sites are valuable, scarce and non-renewable. Many such sites are unfortunately lost daily through infrastructure developments such as powerlines, roads and other destructive economic activities such as mining and agriculture. This is true for the proposed project area whose main economic activities are stock farming and mining. It should be noted that once archaeological sites are destroyed, they cannot be replaced as site integrity and authenticity are permanently lost. Archaeological heritage contributes to our understanding of the history of the region and of our country and continent at large. By preserving links with our past, we may be able to appreciate the role past generations have played in the history of our country and the continent at large.

Categories of Significance

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

Aesthetic Value:

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

Historical Value:

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

Scientific Value:

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

Social Value:

Social value includes the qualities for which a place has become a focus of spiritual, political, national or another cultural sentiment to a certain group. Heritage specialist input in the EIA process needs to consider the heritage management structure set up by the NHR Act. It makes provision for a 3-tier system of management including the South Africa Heritage Resources Agency (SAHRA) at a national level, Provincial Heritage Resources Authorities (PHRAs) at a provincial and the local authority. The Act makes provision for two types or forms of protection of heritage resources, i.e., formally protected and generally protected sites:

Formally Protected Sites

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

General Protection

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

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

Significance Rating Action

No significance: sites that do not require mitigation.

Low significance: sites, which may require mitigation.

2a. Recording and documentation (Phase 1) of the site; no further action required

2b. Controlled sampling (shovel test pits, auguring), mapping and documentation (Phase 2 investigation); permit required for sampling and destruction

Medium significance: sites, which require mitigation.

3. Excavation of representative sample, C14 dating, mapping and documentation (Phase 2 investigation); permit required for sampling and destruction [including 2a & 2b]

High significance: sites, where disturbance should be avoided.

4a. Nomination for listing on Heritage Register (National, Provincial or Local) (Phase 2 & 3 investigation); site management plan; permit required if utilised for education or tourism

High significance: Graves and burial places

4b. Locate demonstrable descendants through social consulting; obtain permits from applicable legislation, ordinances, and regional by-laws; exhumation and reinternment [including 2a, 2b & 3]

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

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

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

Table 2: Evaluation of the proposed development as guided by the criteria in NHRA, MPRDA and NEMA

ACT	Stipulation for developments	Requirement details
NHRA Section 38	Construction of the road, wall, power line, pipeline, canal or other linear forms of development or barrier exceeding 300m in length	No
	Construction of bridge or similar structure exceeding 50m in length	No
	Development exceeding 5000 sq. m	Yes
	Development involving three or more existing erven or subdivisions	No
	Development involving three or more erven or divisions that have been consolidated within the past five years	No
	Rezoning of site exceeding 10 000 sq. m	No
	Any other development category, public open space, squares, parks, recreation grounds	No
NHRA Section 34	Impacts on buildings and structures older than 60 years	No
NHRA Section 35	Impacts on archaeological and paleontological heritage resources	Subject to identification during Phase 1 walk down survey
NHRA Section 36	Impacts on graves	Subject to identification during Phase 1
NHRA Section 37	Impacts on public monuments	No
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

Other relevant legislation

The Human Tissue Act

Human Tissue Act of 1983 and Ordinance on the Removal of Graves and Dead Bodies of 1925 Graves 60 years or older are heritage resources and fall under the jurisdiction of both the National Heritage Resources Act and the Human Tissues Act of 1983. However, graves younger than 60 years are specifically protected by the Human Tissues Act (Act 65 of 1983) and the Ordinance on the Removal of Graves and Dead Bodies (Ordinance 7 of 1925) as well as any local and regional provisions, laws and by-laws. Such burial places also fall under the jurisdiction of the National Department of Health and the Provincial Health Departments. Approval for the exhumation and re-burial must be obtained from the relevant Provincial Member of the Executive Committee (MEC) as well as the relevant Local Authorities.

Terms of Reference

The author was instructed to conduct an AIA/HIA study addressing the following issues:

- Archaeological and heritage potential of the proposed mining right application including any known data on affected areas;
- Provide details on methods of study; potential and recommendations to guide the PHRA/ SAHRA to make an informed decision in respect of authorisation of the waste management licence Application.
- Identify all objects, sites, occurrences, and structures of an archaeological or historical nature (cultural heritage sites) located in and around the proposed mining right application 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 proposed development on these cultural remains, according to a standard set of conventions;
- Propose suitable mitigation measures to minimize possible negative impacts on the cultural resources;
- Review applicable legislative requirements;

PHOTOGRAPHIC PRESENTATION OF THE PROJECT SITE

Plate 1: Photo 1: View of the proposed mining right application site (Photograph © by Author 2022).

Plate 2: Photo 2: View of the mining right site (Photograph © by Author 2022).

Plate 3: Photo 3: View of access road to the farm dwellings (Photograph © by Author 2022).

Plate 4: Photo 4: View of proposed development site (Photograph © by Author 2022).

Plate 5: Photo 5: View of the proposed mining right application site (Photograph © by Author 2022)

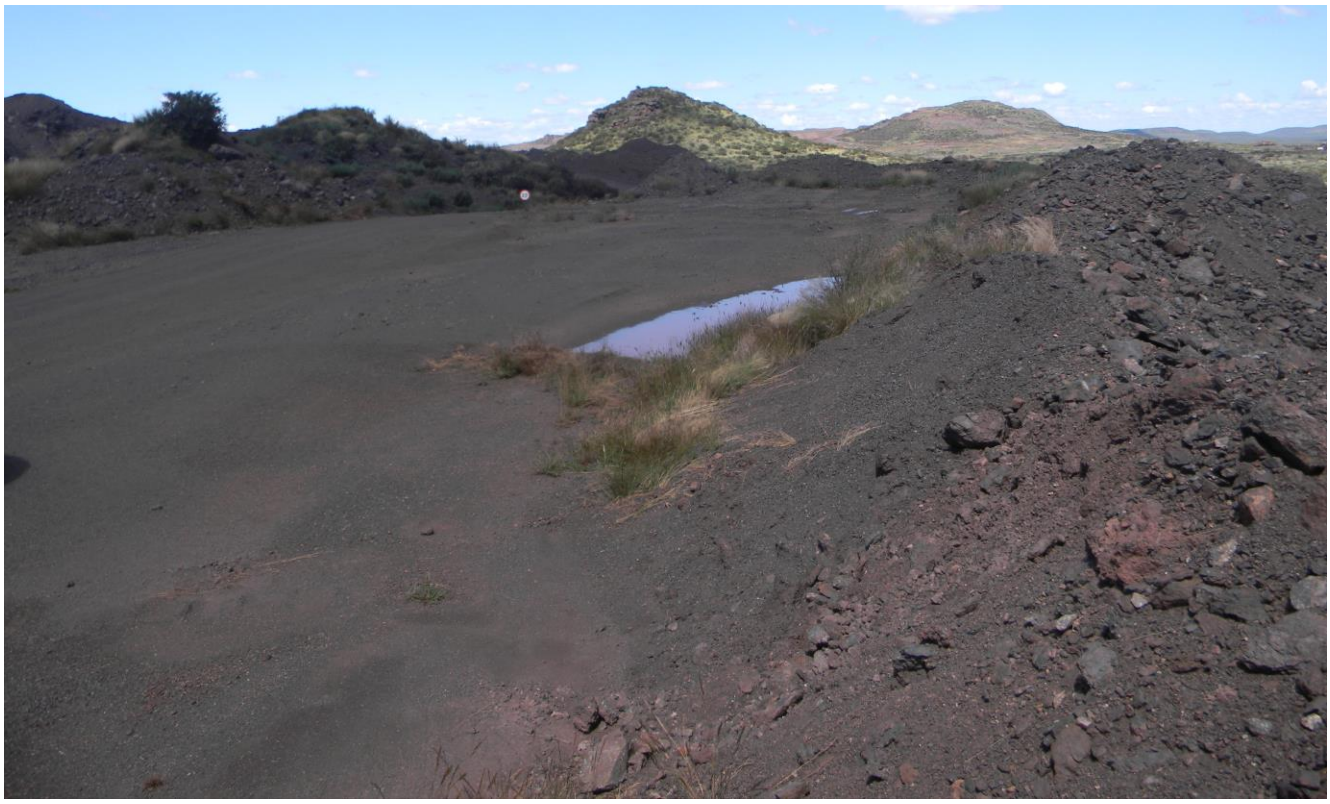

Plate 6: Photo 6: View of proposed development site (Photograph © by Author 2022).

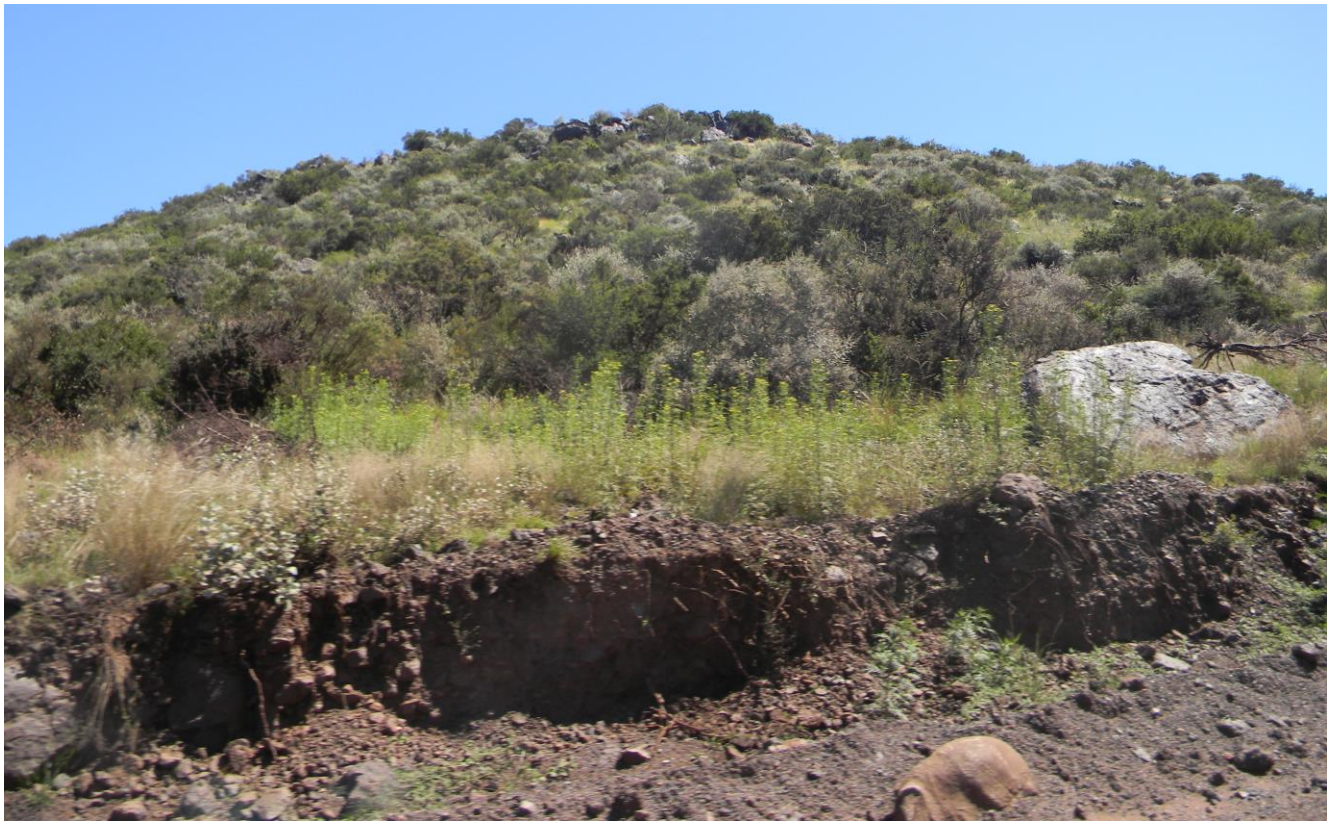

Plate 7: Photo 7: View of farm structures within the proposed mining right application site (Photograph © by Author 2022).

Plate 8: Photo 8: View of farm dwellings within the proposed development site (Photograph © by Author 2022).

Plate 9: Photo 9: View of the site earmarked for the proposed mining right application (Photograph © by Author 2022).

Plate 10: Photo 10: View of proposed mining right application site (Photograph © by Author 2022).

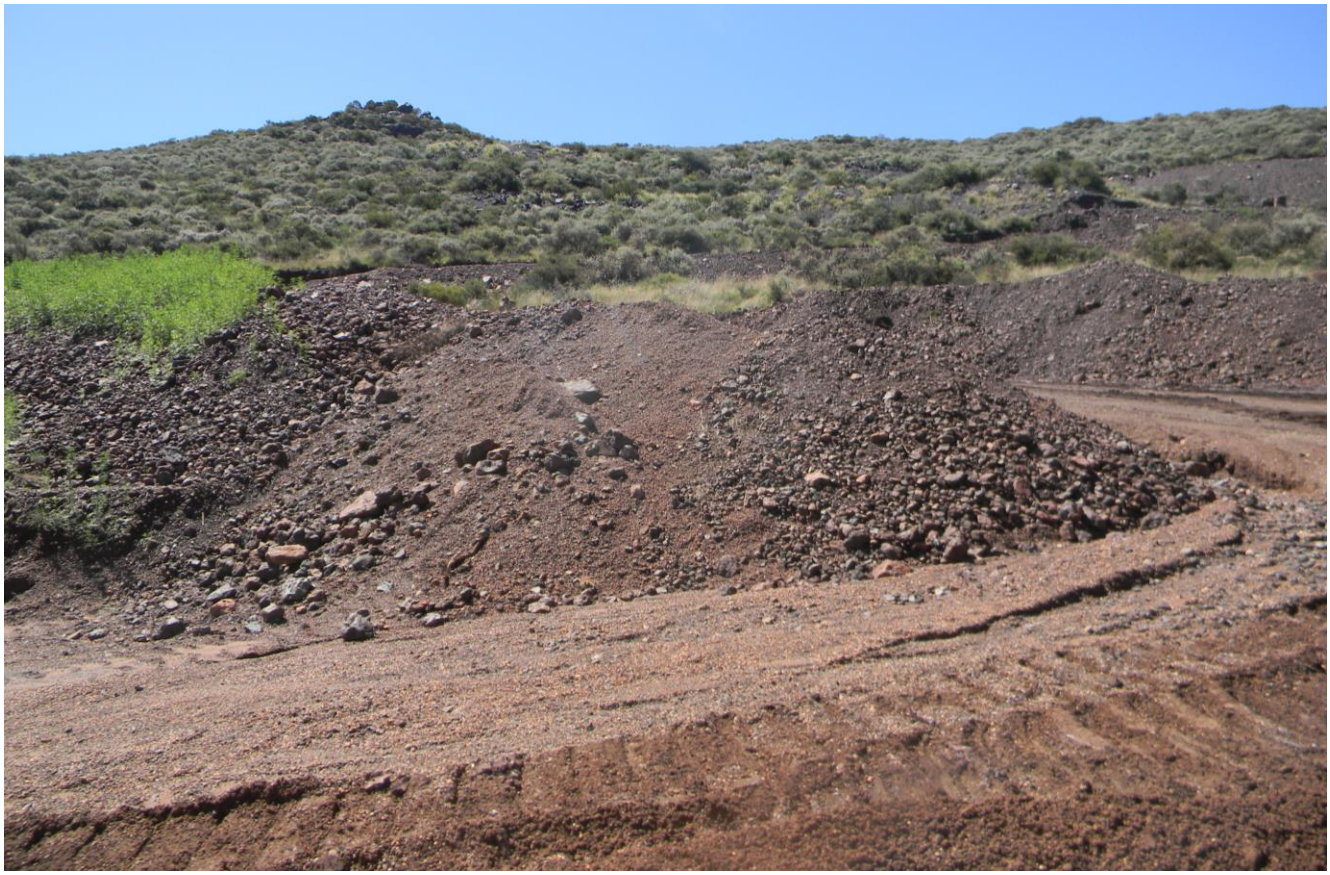

Plate 11: Photo 11: View of farm tracks cutting across the site earmarked for the proposed development (Photograph © by Author 2022).

Plate 12: Photo 12: View of proposed project site (Photograph © by Author 2022).

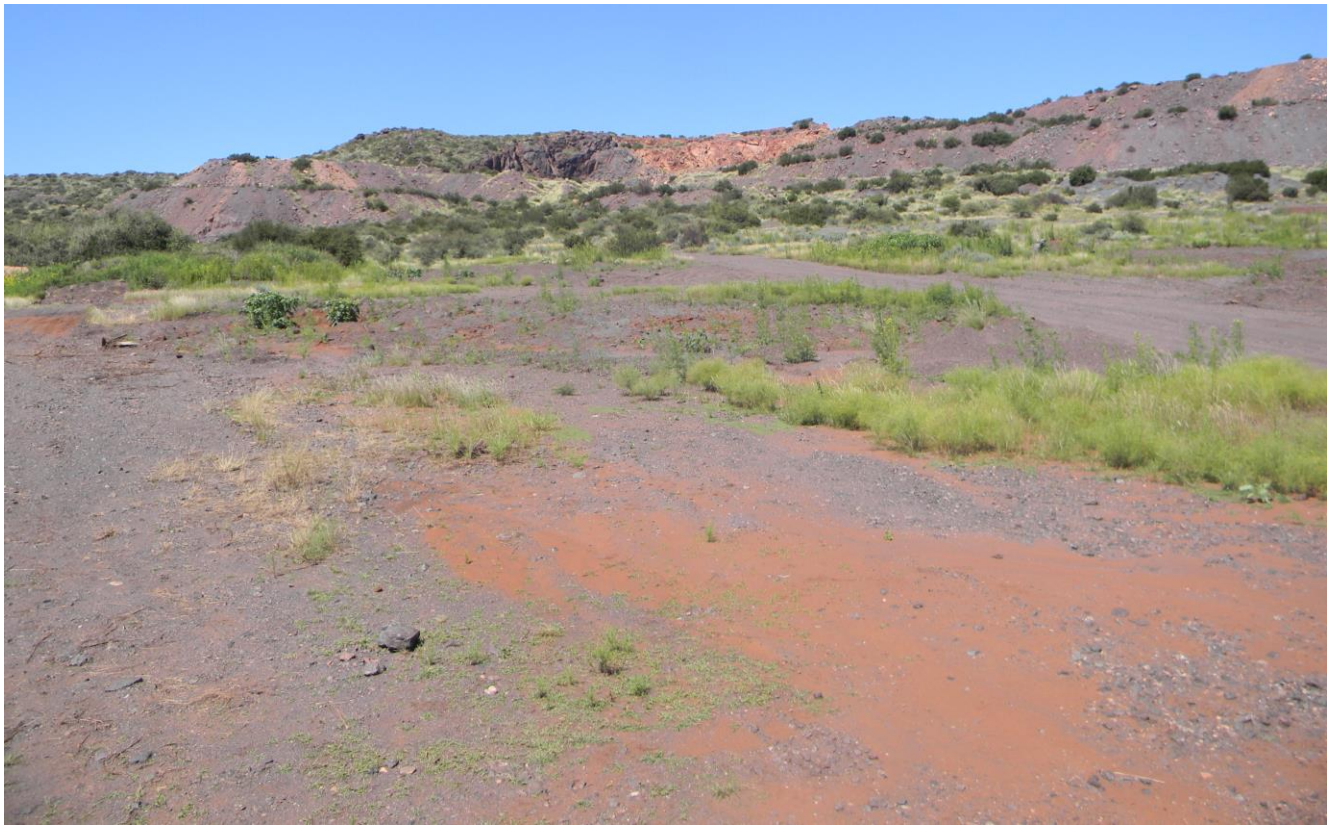

Plate 13: Photo 13: View of proposed mining right application site (Photograph © by Author 2022).

Plate 14: Photo 14: View of the project receiving environment (Photograph © by Author 2022).

Plate 15: Photo 15: View of the proposed mining right application site (Photograph © by Author 2022).

Plate 16: Photo 16: View of proposed mine site (Photograph © by Author 2022).

Plate 17: Photo 17: View of proposed mining right application site (Photograph © by Author 2022).

Plate 18: Photo 18: View of proposed mining right application site (Photograph © by Author 2022).

Plate 19: Photo 19: View of the mining right site (Photograph © by Author 2022).

Plate 20: Photo 20: View of access road cutting across the site (Photograph © by Author 2022).

3 METHODOLOGY

Relevant published and unpublished sources were consulted in generating desktop information for this report. This included online databases such as the UNESCO website, Google Earth, Google Scholar and SAHRIS. Previous HIA in the project area was also consulted (Morris 2010, Kaplan 2010, 2012a, 12b. Pelser 2011, Webley &Halket 2012, Orton& Webley 2013). Several published works on archaeology, history and palaeontology were also consulted. This included dedicated archaeological, paleontological and geological works by (Breutz 1956; 1968; 1987; Humphreys & Thackeray 1983, Deacon & Deacon 1999, Beaumont & Vogel 2006, Beaumont & Vogel 1984; Beaumont and Morris 1990; Beaumont 1999; Holmgren *et al*. 1999; Johnson *et al.* 1997; Peabody 1954; Shillington 1985; Wills 1992; Young 1934; 1940, Huffman 2007, Beaumont *et al* 1995, 2005). Thus, the proposed mining right application by Genet Manganese (Pty) Ltd was considered in relation to the broader landscape, which is a key requirement of the ICOMOS and SAHRA Guidelines.

This document aims at providing an informed heritage-related opinion about the proposed mining right application. This is usually achieved through a combination of a review of any existing literature and a basic 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 HIA practices and aimed at locating all possible heritage objects, sites, and features of cultural significance on the proposed mining right application. Initially, a drive-through was undertaken around the proposed mining right application 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. The detailed photographic recording was also undertaken where relevant. The findings were then analysed in view of the proposed project in order to suggest further action. 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 mining development.

3.1 The Fieldwork surveys

The field survey was undertaken on the 10th of April 2022 by two archaeologists in the company of other specialists. The proposed mining right site was surveyed through tracks, access roads, and footpaths which cut across the mine site. The focus of the survey involved a pedestrian survey which was conducted across the proposed mining right site. The pedestrian survey focussed 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 than the surrounding

grass veld; the presence of exotic trees; evidence for building rubble, and ecological indicators such as invader weeds.

The literature survey suggests that prior to the 20th century modern agriculture and associated infrastructure; the general project area would have been a rewarding region to locate heritage resources related to Iron Age and historical sites (Bergh 1999). However, the situation today is completely different. The study area now lies on a modified landscape that has previously been cleared of vegetation but is now dominated by agriculture and mining activities.

3.2 Visibility and Constraints

The project site is accessible through mine roads making it easier to identify archaeological resources in their original places. In addition, 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 Assumptions and Limitations

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 noted that archaeological deposits (including graves and traces of archaeological heritage) usually occur below the ground level. Should artefacts or skeletal material be revealed at the site during mining, such activities should be halted immediately, and a competent heritage practitioner, 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. The author assumes no responsibility for compliance with conditions that may be required by SAHRA in terms of this report.

The field survey did not include any form of subsurface inspection beyond the inspection of burrows, road cut sections, and the sections exposed by erosion. The study team observed that the site might not have attracted sedentary human settlement although Orton & Webly (2013) identified a few scatters of lithic tools. Some assumptions were made as part of the study and therefore some limitations, uncertainties and gaps in information would apply. It should, however, be noted that these do not invalidate the findings of this study in any significant way:

- The proposed mining right site will be limited to a specific right of the site as detailed in the development layout (Figure 1).

- The mining team to provide link and access to the proposed site by using the existing access roads and there will be no mining beyond the demarcated site.
- No excavations or sampling were undertaken since a permit from heritage authorities is required to disturb a heritage resource. As such the results herein discussed are based on surficial observed indicators. However, these surface observations concentrated on exposed sections such as road cuts and clear farmland.
- This study did not include any ethnographic and oral historical studies, nor did it investigate the settlement history of the area.

3.4 Consultations

Public consultations are being conducted by the project EAP and issues raised by Interested and Affected parties will be presented during project specialist integration meetings. Issues relating to heritage will be forwarded to the heritage specialist. Integrated Specialist Services (Pty) Ltd team consulted residents who confirmed that there are no known graves at the sites.

4 CULTURE HISTORY BACKGROUND OF THE PROJECT AREA

Stone Age Archaeology

South Africa is one of the privileged countries in the world to have a very long and varied history of human occupation (Deacon and Deacon 1999). The Northern Cape is one of the regions in South Africa with the richest Stone Age scatters on the landscape, yet it remains poorly researched and understood (Lombard 2012). Stone Age archaeology is prevalent in the larger geographical area, but generally, the project area does not seem to have attracted many habitations. Perhaps the lack of large rock shelters, the domination of exposed environments and the lack of preferred stone raw materials for tools, dissuaded early man (ESA ~ 2.6 million to 250 000 years ago) from occupying this part of the area. Further to the northwest of this area, the ESA is very well represented at sites such as Kathu Pan 1, Kathu Townlands, and Bestwood 1 (Wilkins and Chazan 2012; Chazan *et al*. 2012; Walker *et al.* 2014) and Wonderwerk Cave (Thackeray *et al*. 1981). All the above sites produced well-made Acheulean hand axes and cleavers, as well as Fauresmith lithic materials that are transitional between the Acheulean (ESA) and the MSA.

The ESA is generally associated with the earlier Oldowan industry (marked by crude choppers and other unifacial core tools), followed by the still large but better fashioned hand axes and cleavers of the Acheulean techno-complex (Deacon and Deacon 1999). The Fauresmith Industry is characterized by a prepared core technology that produced both blades and points, making it transitional between the ESA and the MSA (~ 250 000 to 40-25 000 years ago) (Porat *et al*. 2010; Wilkins and Chazan 2012; Walter et al. 2014). Until recently, the Fauresmith Industry was poorly

defined, being mostly identified based on the co-occurrence of Levallois points and hand axes (Beaumont and Vogel 2006: 224), and prepared cores, blades, and 'side-scrapers on flakes' (Beaumont 1990:79).

The MSA is better understood as a flake-technological stage characterized by faceted platforms, produced from prepared cores, as distinct from the core tool-based ESA technology (Barham and Mitchell 2008). More technological and behavioural changes than those witnessed in the MSA, occurred during the LSA (40-25 000, to recently, 100 years ago), which is also associated with Homo Sapiens (Barham and Mitchell 2008). For the first time, there is evidence of people's activities derived from materials other than stone tools (ostrich eggshell beads, ground bone arrowheads, small, bored stones and wood fragments) (Deacon and Deacon 1999). The LSA people are also credited with the production of rock art (engravings and paintings), which is an expression of their complex social and spiritual beliefs (Parkington *et al*. 2008). Not much is known about these rock shelters, save for the fact that they have LSA material that includes rock paintings (Morris 2010; van der Walt 2013: 18). In the area under study, MSA material mostly occurs on the same sites as ESA material, suggesting longer sequences of occupation that have allowed researchers to probe into the behavioural changes that influenced these technological developments (Porat *et al*. 2010; Walker *et al.* 2014). Thus, characteristic MSA has been reported at sites such as Kathu Pan 1 (Wilkins and Chazan 2012), and Wonderwerk Cave (Beaumont and Vogel 2006), but they also have been reported in isolated clusters (van Vollenhoven and Pelser 2012). At Wonderwerk Cave, the MSA component was associated with pieces of haematite and several incised stone slabs, most with curved parallel lines that add to the behavioural shifts that went beyond stone tools and ushered in the appreciation of art (Beaumont and Vogel 2006).

Later stone age

In terms of characterization, the lithic succession at Wonderwerk Cave serves as a benchmark for the Stone Age sequence of the Northern Cape (Beaumont and Vogel 2006; Kusel *et al*. 2009). The sequence comprises an uppermost LSA sequence that contains Ceramic LSA, Wilton and Oakhurst industries. Some researchers have named the earlier LSA industry of the region as the Oakhurst industry (some have labelled this local variant the Kuruman), characterized by rare, retouched artefacts, most of which are large scrapers that are rectangular with retouch on the side. Several Stone Age sites and scattered finds of Stone Age material were identified by Küsel et.al. (2009) and Archaetnos close to the town of Hotazel and adjacent to the Gamagara River in 2011. All the same, variants of the LSA industries were located at other sites such as Kathu Pan 1 (Porat *et al.* 2013) have been reported. At this site, ostrich eggshell fragments, beads and lithic artifacts attributed to Wilton and Albany industries were found. It was also important to note that, it is still possible to encounter isolated finds during construction and when this happens, the procedure (described in detail below) for reporting chance finds must be followed.

Other than the Wonder Cave, the Northern Cape Province is characterized by a general scarcity of cave sites. There is an abundance of inherently short-term open-air sites (Parson 2003). These assemblages, all of which are associated with ceramics, are described as belonging to either the Swartkop (hunters) or the Doornfontein Industry (Herders) (Beaumont & Morris 1990; Beaumont et al. 1995). Most of these open-air sites consist of a collection of stone artefacts and it is difficult to distinguish if the sites belonged to herders or hunter gatherers. Beaumont et al. (1995) argue that the Swartkop Industry is characterized by a formal component almost identical to that of the preceding local Wilton Complex, namely the Springbokoog. All Swartkop sites occur close to pans for example the Bundu pan southeast of the project area, streambeds, or other potential water sources, on low kopjes or in deflation hollows (Beaumont *et al.* 1995). In contrast, the contemporary Doomfontein Industry consists of mainly amorphous (shapeless) lithic artefacts, often manufactured on quartz and almost no formal tools (Beaumont *et al*. 1995). The implication is that the Wilton Complex gave direct rise to the Swartkop Industry approximately 2000 years ago. Swartkop assemblages are described as having the following elements in common: they are characterized by cryptocrystalline silicates, contain high frequencies of blade flakes, and backed blades and are associated with undecorated, grass tempered ceramics (Beaumont & Vogel 1989).

The raw material used for stone tool production in the LSA industries constitutes four basic types: chert, quartz, quartzite, and banded shale (Humphreys and Thackeray 1983). The chert includes siliceous types such as chert, agate, chalcedony, and jasper, which are essentially fine-grained raw materials. Quartz is equally fine-grained but tends to be very brittle. The flake implements of the MSA were replaced by the long, small blades of the Later Stone Age (LSA) from 20 000 years onwards. However, the traditional lifestyle did not change significantly in a very long time (Deacon and Deacon 1999). Assemblages provisionally assigned to the Doornfontein Industry, are associated with groups of people practising some form of herding during most of the last 2000 years (Beaumont *et al.* 1995: 247–8). Doornfontein assemblages are generally described as including predominantly shapeless lithic flakes, with a formal lithic component.

According to Morris & Beaumont (2004), the larger study area has a wealth of pre-colonial archaeological sites Famous sites in the region include the world renowned Wonderwerk Cave to the north of the study area. Closer to Kuruman two shelters on the northern and southern faces of GaMohaan (in the Kuruman Hills northwest of the town) contain Later Stone Age remains and rock paintings. Rock art is known to occur at Danielskuil to the northeast and on Carter Block (Morris 2008). Middle Stone Age material is on record around the study area where archaeological surveys have shown rocky outcrops and hills, drainage lines, riverbanks, and confluences to be prime localities for archaeological finds and specifically Stone Age sites, as these areas were utilized for settlement of base camps close to water and hunting ranges.

Morris (2005) noted that in the immediate area to the north of Postmasburg the Earlier Stone Age is represented by 11 known sites (Bruce, Kathu, Uitkoms, Sishen, Demaneng, Lylyveld and Mashwening); the Middle Stone Age by 5 sites (all in the vicinity of Kathu); and the Later Stone Age by 10 sites (one on King, one at Mashwening and eight at Kathu). Rock engravings have been identified from Sishen and Bruce (the Bruce site was salvaged and recorded by Fock & Fock 1984), as well as at Beeshoek (Fock & Fock 1984; Morris 1992; Beaumont 1998). Specularite sources are known on Demaneng and Lylyveld and were mined in Stone Age times at a site on Doornfontein to the south (Beaumont 1973; Beaumont & Boshier 1974) and at Tsantsabane to the east of Postmasburg (Beaumont 1973; Thackeray *et al.* 1983): numerous other speculative workings have also been recorded (Beaumont 1973).

It is important to note that Postmasburg has remarkable evidence of archaeological remains (Webley 2010). The possibility of archaeological findings in the study area has also been indicated by previous research in the greater Daniëlskuil-Postmasburg and Ghaap Plato areas. Webley (2010) noted that the possibility of scattered homesteads cannot be excluded around this area. A report by Webley (2010) indicates the existence of structures only demarcated by single rows of rocks, indicating the position of the house foundations., which testifies to early human activity. (Snyman 1983) Survey by Webley (2010) recorded dotted Stone Age artefact around dry pans and rivers as well as spot finds in the flat sandy areas. Most of these scatter were found where pebble layers were exposed. It is however important to note that no context and in situ preservation were identified in these sites and they were graded as of low heritage significance.

Several prehistoric specularite and haematite mines including underground workings were also recorded around Postmasburg, on the farms Paling M87. Open mining pits at Gloucester 13 and Mount Huxley, as well as open mining pits next to the town reservoir, were also recorded. An ancient specularite mine at Doornfontein (Doornfontein 1) north of Postmasburg has a maximum length of over 100 m and consists of four interlinked chambers (Beaumont & Boshier 1974). Excavations yielded mining tools including stone artefacts, various types of pottery, bone arrow heads, and hundreds of ostrich eggshell beads. The most famous mining site is Blinkklipkop (Gatkoppies). The first description of this site was given by P.B. Borchards, a member of the 1801 Truter and Somerville expedition to the Bechuana. Lichtenstein, in his Travels in Southern Africa, recounts a visit to the site in 1805, and William Burchell visited Blinkklipkop on June 18, 1812, as noted in his Travels in the Interior of Southern Africa. The Blinkklipkop and Doornfontein sites near provide evidence of LSA mining practices and the introduction in the region of domesticated ovicaprids and possibly cattle as well as pottery by 1200 BP.

Beaumont and Boshier (1974) excavated a prehistoric pigment (specularite) mine four (4) kilometres to the west of Bleskop at Jonas Vlakte on Doornfontein 446. This area appears to be particularly rich in specularite breccia and

these deposits were mined in pre-European times. The Doornfontein site represents a number of chambers which have been dug into a hillside. Archaeological excavations resulted in the discovery of large numbers of stone artefacts comprising mainly stone choppers and hammerstones which had been used to mine the specularite. In addition, the archaeologists discovered pottery, decorated ostrich eggshell pieces, beads and bone implements as well as faunal (bone) remains which provide information on the diet of the pre-colonial miners (Beaumont & Boshier 1974: Figure 4). Radiocarbon dates place the mining activities 1200 years ago or 800 AD. Fragmentary human remains from the Blinkklipkop mine which is approximately 5km to the northeast of Postmasburg suggest that the early miners were of Khoisan physical type rather than representing the Iron Age settlement.

Rock art sites in the region, including rock engraving as well as paintings, are known from Wonderwerk Cave (paintings) and the Danielskuil Townlands (engravings). Non-representational rock art sites near Postmasburg include engravings from the farms Beeshoek and Klapin and paintings from Andriesfontein and Toto. Beaumont and Boshier (1974) also refer to some engraving sites at Paling which is located on Driehoekspan 435, as well as on Beeshoek to the west of Postmasburg. These roughly pecked engravings occur on shale outcrops.

Further to the north, Early Stone Age hand axes have been recorded at Kathu Pan. Beaumont has excavated numerous sites around the pan and he observed (Beaumont 1990) that a combination of geological conditions resulted in the preservation of a long record of human habitation in the Northern Cape.

Similarly, excavations at Bundu Pan near Marydale in the Northern Cape (Kiberd 2006) have also revealed a sequence including Early, Middle and Later Stone Age assemblages as well as preserved faunal remains. This suggests that the margins of pans need to be investigated for early human habitation. Webley *et al*. (2010) found a mix of Middle and Later Stone Age artefact scatters on fine-grained raw material were found around the margins of pans. Pelser's (2012) study for the proposed Boichoko Township Development on Portions 11 & 12 of Pens Fontein 449 recorded a scatter of stone tools within the proposed development area.

A number of open sites around Keimoes in the Northern Cape have been tested in recent years and they suggest two possible Later Stone Age sequences (Parsons 2008). However, the development of a chronological sequence is hampered by the lack of suitably stratified deposits. Morris & Beaumont (1991:119) have described a ceramic Later Stone Age for the site of Renosterkop, also near Keimoes.

Late Iron Age

The Tswana (Western Sotho) invaded the Northern Cape about 500 years ago. The later Hay District in which Postmasburg was located was only occupied in the early 1800s. Long before settling in this area the Tswana also undertook journeys to Blinkklipkop to mine for the cosmetic substance that they called sibilo. In 1813 the missionary

John Campbell came across a group of Bushmen near the mine and commented the following: “Blink Mountain is a kind of Mecca to the nations around, who are constantly making pilgrimages to it, to obtain fresh supplies of the blue shining powder and the red stone.” (Snyman 1983). Rock paintings in the area serve as evidence that the hunter gatherer Bushmen had inhabited Griqualand West for centuries. In the 1770s, the Korana (people of Nama ancestry) moved into the Postmasburg area and disrupted the Bushmen’s way of life. The Korana regularly visited a primitive mine in the Blinkklipkop, which today forms part of the town of Postmasburg, to exploit shimmering substances, namely hematite and specularite, which were mixed with fat and applied to the skin to give a sought-after shiny red appearance. With the later arrival of the Tswana, Korana, Griqua and Europeans the Bushmen gradually emigrated to the Kalahari, Botswana and Namibia. (Snyman 1983). It was during this period when the Griqua tribes coming from the south settled in the region in order to escape the encroachment of Afrikaner Trekboere who was active along the Orange River. They established the town of Klaarwater, renamed Griquatown in 1813. In the 1820s Andries Waterboer the Griqua leader was able to expel his enemies, the Bergenaars of the Langeberge, from Blinkklip, as the area was called at the time. This became a permanent outpost of the Griqua tribe. The remaining Tswana and Bushmen moved away, and some were assimilated by Waterboer’s people. By the 1830s the Blinkklip population had grown to the extent that missionary of the London Mission Society, John Baillie, was stationed there for a time. Nikolaas Waterboer succeeded his father in 1853, and after this, the tribe’s authority in the area started to wane. Waterboer and his tribe became British subjects in 1871 after the British annexed Griqualand West.

The area was settled since 1800 and served as a location of the Thlaping and Thlaro with evidence of stone tools, as well as glass beads, have been found in the Blinkklipkop (“Shiny Stone Hill”). The Tlhaping and Tlharo branches, which entered the Northern Cape from the north at the beginning of the 17th century, reached as far south as Majeng (Langeberg), Tsantsabane (Postmasburg) and Tlhake le Tlou (Danielskuil) by the beginning of the 18th century (Snyman 1986). A large Thlaping settlement was established at Nokaneng, about 40 km southwest of Olifantshoek, while the Tlharo largely occupied the Langeberg region between Ditlou (Olifantshoek) and Dibeng (Deben) (Maingard 1933). The farm Nokanna, situated about 35 km north of Witsand, equates with the former BaTlaping capital of Nokaneng, where Chief Mothibi was born in about 1775.

After clashes with the Koranna and Griqua people, who moved into the area after 1770, the Tlhaping and Tlharo temporarily abandoned Nokanna and the Langeberg in around 1790 to settle around Dithakong (Kuruman) only to return to the Langeberg at the beginning of the 19th century (Humphreys 1976). At the time of the 1801-1803 Borcherds and Somerville expedition, Dithakong was an important BaTlhaping capital. It was calculated that the number of huts there was at least not less than 1 500 and the number of occupants at somewhere between 8 000 and 25 000 (Maingard, 1933; Morris 1990).

Extensive stonewall enclosures are found on the adjacent hills and archaeological investigations during the 1980s have revealed that the ruins were built during the 15th century A.D. and possibly by sedentary Khoi groups. The area consists of primary and secondary enclosures and covers a total area of a square metre comprising hundreds of circles of varying sizes. With the annexation of the region south of the Molopo and north of Griqualand West by the British in 1885, the area became known as British Bechuanaland. Several reservations were established but following a revolt in 1895 known as the Langeberg Rebellion, the reservations were confiscated by the British colonial j

According to Snyman (1983); Breutz (1963) the discovery of diamonds further paved the way for white settlement in this district. De Jong (2010) noted that in 1867 a serious dispute over the ownership of the diamond fields ensued, involving the Transvaal and Orange Free State Boer republics, Griqua, Korana and Thlaping communities and the Cape colonial government. In October 1871 the diamond fields were proclaimed British territory under the name Griqualand West. In 1879 it was annexed to the Cape Colony. The incorporation of Griqualand West into the Cape Colony promoted colonial settlement in the area from the 1880s.

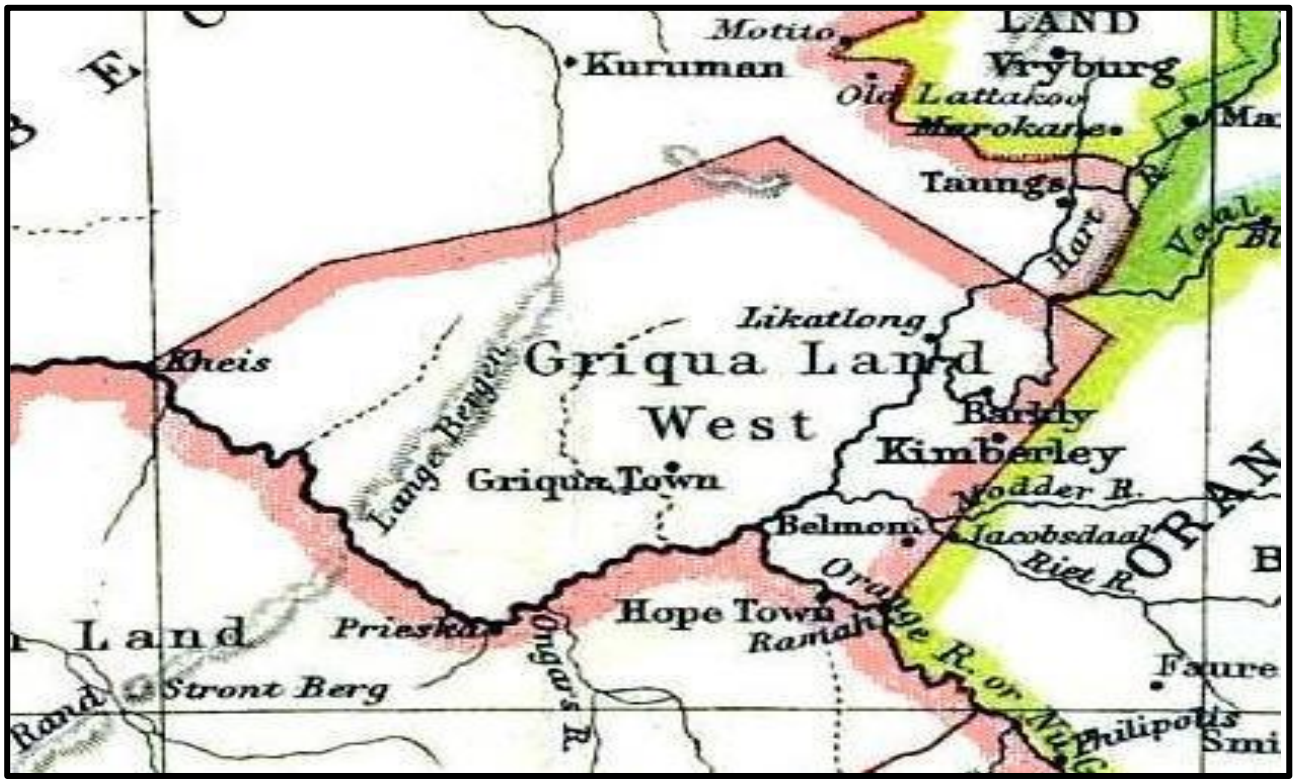

*Figure 8: Section of a map titled "Sketch Map of South Africa showing British Possessions". The map is dated July 1885. (*Kitto 2016*). The boundaries and position of Griqualand West are depicted in this figure. The approximate position of the present study area is shown.*

Government-owned land was surveyed and divided into farms, which were transferred to farmers. Surveyors were given the task of surveying and naming some of the many farms in this region. These farms were allocated to prospective farmers, but permanent settlement only started in the late 1920s and the first farmsteads were possibly built during this period (De Jong 2010). The reason why the settlement of Europeans in Postmasburg took long was that the country was so bare, waterless and stony that it was almost impossible to make a living there. Tribes that lived in the area occupied large parts of the country because it was so difficult to find water for their stock. It was only the later prosperity that came from mining that sparked agricultural development, leading to the sinking of thousands of boreholes and the construction of roads. (Breutz 1963)

Farms were surveyed by the British in the Griqualand district around 1870 and between 1876 and 1878. It was during this period that the first European owned farms were purchased in this area. There were still a number of Griqua landowners in the area as well. The Griqualand West Rebellion disrupted life in the region in 1878, causing some to move away. In 1880 the Griqualand West district was incorporated into the Cape Colony and brought under formal administration. As of the early 1880s, a much larger area surrounding Blinkklip was surveyed, and more white settlers moved into the area.

The Magistrate of the Hay District, J. J. Christie lobbied for the establishment of a town at Blinkklip. This was already the most populous part of the Hay district. The Griqua town of Blinkklip was established in 1882, originally a mission station which was later renamed Postmasburg in 1892 and became the centre of a magisterial district (Snyman 2000). Another town, Olifantshoek, was established in the 1880s. The establishment of Blinkklip led to the establishment of a Reformed Church five kilometres south of Blinkklip and this settlement started to gain prominence. By late 1884 the Reformed Church and its members were also campaigning for the establishment of the town, and on 30 November 1889, it was finally decided that the church would move to Blinkklip. The church was consecrated in Blinkklip on 28 February 1891, and a new Reformed Church building was completed in 1908. (Snyman 1983). It was only in 1891 that 82 town plots were surveyed around the existing police station at Blinkklip. In the same year members of the church petitioned the Commissioner of Crown Lands to rename this town Postmasburg, in memory of Professor Dirk Postma, a minister and founder of the Dutch Reformed Church in South Africa. On 14 April 1892, the Assistant Commissioner of Crown Lands reported as follows: “in view of the unanimous request of the inhabitants, instructions have been issued for the necessary arrangements to be made for the change of the name of the township from ‘Blink Klip’ to ‘Postmasburg’ (Snyman, 1983)

By June 1892 there were only three buildings in the town of Postmasburg: a police station, a church building and a small house belonging to a policeman. This soon changed, and by March 1893 the little settlement that was established around a church had a post office, two shops, a partially completed school building and twenty dwelling

houses. The town's first town management council was elected in May of that year. (Snyman 1983) The manganese fields in the Postmasburg area were opened for prospecting in 1922, and this greatly boosted the development of the town and caused an influx of new residents. The economic depression of 1930 adversely affected mining in the area, but the town economy could still rely on the agricultural sector. Postmasburg became a municipality in 1936. (Snyman 1983: 12).

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 a group(s) of people. Thus, intangible heritage is better defined and understood by the 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 per se, even though several other places in the general area do have intangible heritage.

5 RESULTS OF THE ARCHAEOLOGICAL/HERITAGE ASSESSMENT STUDY

The main cause of impacts on 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 are 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 severe impacts are likely to occur during clearance, indirect impacts may occur during the movement of heavy mining vehicles. Similarly, the clearing of access roads will impact material that lies buried in the surface sand. Since heritage sites, including archaeological sites, are non-renewable, they must be identified, and their significance assessed prior to mining. 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 mining right sites. Further, archaeological sites and unmarked graves may be buried beneath the surface and may only be exposed during the operation phase. The purpose of this study is to assess the sensitivity of the area in terms of archaeology and to avoid or reduce the potential impacts of the proposed mining right application by means of mitigation measures (see appended Chance Find Procedure). The study concludes that the impacts will be negligible since the sites have already been disturbed. The following section presents the results of the archaeological and heritage survey conducted within the proposed mining right application site.

Table 3: Summary of findings

Heritage resource	Status/Findings
Buildings, structures, places and equipment of cultural significance	Several buildings and mine structures were recorded during the survey. Due to the lack of information the ages of the buildings could not be established conclusively.
Areas to which oral traditions are attached or which are associated with intangible heritage	None exists in the study area
Historical settlements and townscapes	None recorded on the study site
Landscapes and natural features of cultural significance	None
Archaeological sites	None recorded within the proposed mining site
Graves and burial grounds	None recorded within the proposed project site must be protected/
Movable objects	None
Overall comment	Although no burial site was recorded within the proposed mining site, there is potential to encounter unmarked graves.

Item	Description	Coordinates
KHB01	Dilapidated historic building	28° 9'43.00"S 23° 6'3.00"E
KHB02	Industrial structure	28° 9'36.00"S 23° 6'8.00"E
KHB03	Decommissioned railway line	28° 9'31.00"S 23° 6'10.00"E
KHB04	Remain of house foundations	28° 9'23.00"S 23° 6'7.00"E
KHB05	Partially destroyed buildings	28° 9'22.52"S 23° 6'4.42"E
KHB06	Industrial building blocks	28° 9'20.00"S 23° 6'3.00"E
KHB07	Linear dwellings and remains of foundations	28° 9'15.99"S 23° 6'4.88"E
KHB08	Dilapidated building	28° 9'15.88"S 23° 6'8.09"E
KHB09	Remnants of a house	28° 9'14.00"S 23° 6'10.00"E
KHB10	Mine compounds	28° 8'43.40"S 23° 6'18.81"E
KHB11	Remains of a loading bay	28° 8'43.76"S 23° 6'19.64"E
KHB12	Water reservoir	28° 8'51.17"S 23° 6'20.29"E
KHB13	Remains of a weigh bridge	28° 8'6.00"S 23° 6'17.00"E
KHB14	Partially destroyed brick dwelling	28° 8'30.00"S 23° 6'10.00"E
KHB15	Stone curns	28° 9'17.00"S 23° 6'28.00"E
KHB16	Partially demolished structure	28° 9'18.00"S 23° 6'29.00"E
KHB17	Clustered house foundations	28° 9'19.00"S 23° 6'33.00"E

Archaeological and Heritage Sites

The proposed mining right application site did not yield any confirmable archaeological sites or material. Based on the field study results and field observations, it is the considered opinion of the author that the receiving environment for the proposed mining right application site is low to medium potential to yield previously unidentified archaeological sites during mining.

Buildings and Structures older than 60 years

The study recorded more than 17 individual structures within the mining right site (see Plate 22 to 47). Most of the buildings and structures are associated with the previous mining activities within the area. Due to a lack of information and their state of conservation, their ages could not be conclusively confirmed. However, it is assumed that most of the historical buildings have been destroyed or collapsed due to natural decay and what remains are foundations which from a heritage perspective are not very significant. Although the buildings and structures are in a bad state of conservation, they are still protected in terms of Section 34 of the NHRA. It looks like most of the affected structures have been avoided and therefore the mining right application may be approved subject to

ensuring that no historic building may be destroyed without a permit from PHRA. Further investigation and mitigation are required if a heritage building is earmarked for demolition or alteration.

Plate 21: Photo 21: View of the proposed mining right application site (Photograph © by Author 2022).

Plate 22: Photo 22: View of the proposed mining right application site (Photograph © by Author 2022).

Plate 23: Photo 23: View of the proposed mining right application site (Photograph © by Author 2022).

Plate 24: Photo 24: View of the proposed mining right application site (Photograph © by Author 2022

Plate 25: Photo 25: View of the proposed mining right application site (Photograph © by Author 2022

Plate 26: Photo 26: View of the proposed mining right application site (Photograph © by Author 2022

Plate 27: Photo 27: View of the proposed mining right application site (Photograph © by Author 2022

Plate 28: Photo 28: View of the proposed mining right application site (Photograph © by Author 2022

Plate 29: Photo 29: View of the proposed mining right application site (Photograph © by Author 2022

Plate 30: Photo 30: View of the proposed mining right application site (Photograph © by Author 2022

Plate 31: Photo 31: View of the proposed mining right application site (Photograph © by Author 2022

Plate 32: Photo 32: View of the proposed mining right application site (Photograph © by Author 2022

Plate 33: Photo 33: View of the proposed mining right application site (Photograph © by Author 2022

Plate 34: Photo 34: View of the proposed mining right application site (Photograph © by Author 2022

Plate 35: Photo 35: View of the proposed mining right application site (Photograph © by Author 2022

Plate 36: Photo 36: View of the proposed mining right application site (Photograph © by Author 2022

Plate 37: Photo 37: View of the proposed mining right application site (Photograph © by Author 2022

Plate 38: Photo 38: View of the proposed mining right application site (Photograph © by Author 2022

Plate 39: Photo 39: View of the proposed mining right application site (Photograph © by Author 2022

Plate 40: Photo 40: View of the proposed mining right application site (Photograph © by Author 2022

Plate 41: Photo 41: View of the proposed mining right application site (Photograph © by Author 2022

Plate 42: Photo 42: View of the proposed mining right application site (Photograph © by Author 2022

Plate 43: Photo 43: View of the proposed mining right application site (Photograph © by Author 2022

Plate 44: Photo 44: View of the proposed mining right application site (Photograph © by Author 2022

Plate 45: Photo 45: View of the proposed mining right application site (Photograph © by Author 2022

Plate 46: Photo 46: View of the proposed mining right application site (Photograph © by Author 2022

Plate 47: Photo 47: View of the proposed mining right application site (Photograph © by Author 2022

Burial grounds and graves

Human remains and burials are commonly found close to archaeological sites; they may be found in abandoned and neglected burial sites or occur sporadically anywhere as a result of prehistoric activity, victims of conflict or crime. It is often difficult to detect the presence of archaeological human remains on the landscape as these burials, in most cases, are not marked at the surface. Archaeological and historical burials are usually identified when they are exposed through erosion and earth moving activities for infrastructure developments such as powerlines and roads. In some instances, packed stones or stones may indicate the presence of informal pre-colonial burials.

The field survey did not record any burial grounds or graves within the proposed mine site. However, a municipality cemetery is located near the development site. The cemetery is no longer active. The proposed development will not affect the site which is well fenced and secure.

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 tampered with or interfered with during mining. The possibility of encountering human remains during subsurface earth moving works anywhere on the landscape is ever present. Although the possibility of

encountering previously unidentified burial sites is low along with the proposed mining site, should such sites be identified during subsurface construction work, they are still protected by applicable legislation, and they should be protected (See Appendices 2 &3 for more details). In addition, any mitigation measures in respect of graves that may be located in the mine site must put into consideration the need to protect graves as evidence of previous settlement by African populations who were forcibly evicted due to racially discriminatory legislation and practices associated with the colonial and Apartheid regimes.

The study did not identify any graves or burial sites within the mining right application site. The possibility of encountering previously unidentified burial sites is low within the proposed mining right site, should such sites be identified during mining, they are still protected by applicable legislation, and should be protected (also see Appendixes for more details). In terms of Section 36 of the NHRA and the Human Tissue Act, the proposed mining right application may be approved without any further investigation and mitigation.

Public Monuments and Memorials

The survey did not identify any historical monuments and public memorials within the direct path of the proposed mining right application site.

Battle fields

There are no known battle fields within the proposed mining right application site.

Archaeo-Metallurgy, Prehistoric Mining and Mining Heritage

The study did not record any traces of archaeological or historical mining within the proposed mining right site.

Mitigation

Mitigation is required to protect historical buildings and structures within the mining right site. Based on the field observation existing buildings and structures were already avoided during the previous mining activities. In addition, most of these buildings and structures are in a poor state of conservation to warrant preservation in *situ.*

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 mining is considered the total impact associated with the proposed project when combined with other past, present, and reasonably foreseeable future development projects. The impacts of the proposed mining 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 development.

This proposed mining combined with other proposed mining activities will effectively transform the landscape and will spoil the visual quality of the area along Road R325. The cumulative impact will negatively affect the landscape quality of the area which is ordinarily considered to be a source. The frequency of development proposals in the area has the potential to collectively change the character of the landscape (see the Kathu area as an example). The once isolated landscape will see volumes of people establishing low settlements 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 the potential of lithic tools and rock engravings that are known to occur in the project area.

7 ASSESSMENT OF SIGNIFICANCE

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

Table 4: Criteria Used for Rating of Impacts

Nature of the impact (N)		
Positive	+	Impact will be beneficial to the environment (a benefit).
Negative	-	Impact will not be beneficial to the environment (a cost).
Neutral	0	Where a negative impact is offset by a positive impact, or mitigation measures, to have no overall effect.
`Magnitude(M)		
Minor	2	Negligible effects on biophysical or social functions/processes. Includes areas / environmental aspects which have already been altered significantly and have little to no conservation importance (negligible sensitivity*).
Low	4	Minimal effects on biophysical or social functions/processes. Includes areas / environmental aspects which have been largely modified, and/or have a low conservation importance (low sensitivity*).
Moderate	6	Notable effects on biophysical or social functions/processes. Includes areas / environmental aspects which have already been moderately modified and have a medium conservation importance (medium sensitivity*).
High	8	Considerable effects on biophysical or social functions/processes. Includes areas / environmental aspects which have been slightly modified and have high conservation importance (high sensitivity*).
Very high	10	Severe effects on biophysical or social functions/processes. Includes areas / environmental aspects which have not previously been impacted upon and are pristine, thus of very high conservation importance (very high sensitivity*).
Extent (E)		
Site only	1	Effect limited to the site and its immediate surroundings.
Local	2	Effect limited to within 3-5 km of the site.
Regional	3	Activity will have an impact on a regional scale.
National	4	Activity will have an impact on a national scale.
International	5	Activity will have an impact on an international scale.
Duration (D)		
Immediate	1	Effect occurs periodically throughout the life of the activity.
Short term	2	Effect lasts for a period 0 to 5 years.
Medium term	3	Effect continues for a period between 5 and 15 years.
Long term	4	Effect will cease after the operational life of the activity either because of a natural process or by human intervention.
Permanent	5	Where mitigation either by natural process or by human intervention will not occur in such a way or such a period that the impact can be considered transient.
Probability of occurrence (P)		

Improbable	1	Less than 30% chance of occurrence.
Low	2	Between 30 and 50% chance of occurrence.
Medium	3	Between 50 and 70% chance of occurrence.
High	4	Greater than 70% chance of occurrence.
Definite	5	Will occur, or where applicable has occurred, regardless of or despite any mitigation measures.

Once the impact criteria have been ranked for each impact, the significance of the impacts will be calculated using the following formula:

Significance Points (SP) = (Magnitude + Duration + Extent) x Probability

The significance of the ecological impact is therefore calculated by multiplying the severity rating with the probability rating. The maximum value that can be reached through this impact evaluation process is 100 SP (points). The significance for each impact is rated as High (SP≥60), Medium (SP = 31-60) and Low (SP<30) significance as shown below.

Table 5: Criteria for Rating of Classified Impacts

Significance of predicted NEGATIVE impacts		
Low	0-30	Where the impact will have a relatively small effect on the environment and will require minimal or no mitigation and as such have a limited influence on the decision
Medium	31-60	Where the impact can have an influence on the environment and should be mitigated and as such could have an influence on the decision unless it is mitigated.
High	61-100	Where the impact will definitely influence the environment and must be mitigated, where possible. This impact will influence the decision regardless of any possible mitigation.
Significance of predicted POSITIVE impacts		
Low	0-30	Where the impact will have a relatively small positive effect on the environment.
Medium	31-60	Where the positive impact will counteract an existing negative impact and result in an overall neutral effect on the environment.
High	61-100	Where the positive impact will improve the environment relative to baseline conditions.

Table 6: Operational Phase

Impacts and Mitigation measures relating to the proposed project during the Operational Phase														
Activity/Aspect	**Impact /**	**Aspect**	**Nature**	**Magnitude**	**Extent**	**Duration**	**Probability**	**Mitrigation before mitigation**	**Mitigation measures**	**Magnitude**	**Extent**	**Duration**	**Probability**	**Mitigation after mitigation**
Clearing and mining	Destruction of archaeological remains	Cultural heritage	-	4	1	2	2	14	• Use the chance to find a procedure to cater for accidental finds	4	1	2	2	14
	Disturbance of graves	Cultural heritage	-	4	1	2	4	28	• Use the chance to find a procedure to cater for accidental unmarked and buried grave finds	4	1	2	2	14
	Disturbance of buildings and structures older than 60 years old	Operational	-	6	1	2	4	36	• None required	4	1	2	2	14
Movement of equipment	Destruction of public monuments and plaques	Operational	-	2	1	1	1	4	• Mitigation is not required because there are no public monuments within the proposed mining right application site	2	1	1	4	4

Based on the results of the Impact Assessment Matrix the proposed mining site is viable from a heritage perspective.

8 STATEMENT OF SIGNIFICANCE

Aesthetic Value

The aesthetic values of the AIA Study Area and the overall project area are contained in the valley bushveld environment and landscape typical of this part of the Northern Cape Province. The visual and physical relationship between the AIA study area and the surrounding historical Cultural Landscape demonstrates the connection of place to the local and oral history stories of the African communities who populated this region going back into prehistory.

The proposed mining site will be situated within an environment and associated cultural landscape, which, although developed by existing settlements, remains representative of the original historical environment and cultural landscape of this part of the Northern Cape. The local communities consider the project area a cultural landscape linked to their ancestors and history. However, the proposed mining right application site will not alter this aesthetic value in any radical way since the mining holes will be limited in number and small.

Historic Value

The Indigenous historic values of the Site of Interest and overall study area are contained in the claim of possible historic homesteads being located in the affected area. The history of generations of the Sotho-Tswana clans is tied to this geographical region. Such history goes back to the pre-colonial period, through the colonial era, the colonial wars and subsequent colonial rule up to modern-day Northern Cape Province.

Scientific value

Past settlements and associated roads and other auxiliary infrastructure developments and disturbance within the HIA Study Area associated with the proposed mining right have resulted in a limited intact landscape with the potential to retain intact large scale or highly significant open archaeological site deposits.

Social Value

The project site falls within an extensive cultural landscape that is integrated with the wider inland. The overall area has social value for the local community, as is the case with any populated landscape. The literature review suggests that the social value of the overall project area is also demonstrated through local history which associates the area with the coming of European missionaries, explorers and colonialists and the African struggle against settler colonialism in the second half of the 1800s and at the end of the 1800s, the colonial wars of resistance, the century long struggle for democracy that followed colonial subjugation. Several generations of communities originate from the project area and continue to call it home. As such, they have ancestral ties to the area. The land

also provides the canvas upon which daily socio-cultural activities are painted. All these factors are put together to confirm the social significance of the project area. However, this social significance is unlikely to be negatively impacted by the proposed mining right site especially given the fact that the development will add value to the human settlements and activities already taking place. Some sections of the development site are covered by thick bushes and vegetation retains social value as a source of important herbs and traditional medicines. As such, they must be considered significant social value sites

9 DISCUSSION

Several Phase 1 Heritage studies for various infrastructure developments and mining developments were conducted since 2006 in the general project area. Although these studies recorded sites of significance for example Morris (2010) Orton and Webley, (2013), Pelser (2011); Kaplan (2012) and Orton (2013), the recorded sites of varying significance. 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 significance of sites so far recorded in the study compared to other sites indicate that they are of lesser importance because they are small scatters and confined pans and foothills of mountains (Morris 2010, Orton &Webley 2013). The region's remoteness of the Northern Cape may be a reason for the lack of archaeological research in the area. Probably because of its dryness, the area has been relatively marginal to human settlement for most of its history (Morris 2010, Pelser 2011). Some areas are richer than others, and not all sites are equally significant, and this is true for the current mining right application sites. 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 mining right application site is located within a heavily degraded mining area and has 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 mining right application sites may have impeded 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 a general survey without necessarily conducting any detailed inspection of specific locations that will be affected by the proposed mining right site.

The absence of confirmable and significant archaeological cultural heritage sites is not evidence that such sites do not exist in the proposed mining right application site. The significance of the sites of Interest (mining sites) is not

limited to the presence or absence of physical archaeological sites. Based on the results of the field study the proposed mining right may be approved to proceed without any further investigation from a heritage perspective.

10 RECOMMENDATIONS

The study did not find any permanent barriers to the proposed mining rights application. It is the considered opinion of the author that the mining right application may be approved from a heritage resources management perspective if mitigation measures are implemented if and when required. The following recommendations are based on the results of the AIA/HIA research, cultural heritage background review, site inspection and assessment of significance.

- The proposed mining right application may be approved to proceed as planned under the observation that project work does not extend beyond the surveyed site.
- The recorded buildings and structures must not be destroyed without a permit from PHRA. They are protected in terms of Section 34 of the NHRA.
- Should any unmarked burials be exposed during mining, potential custodians must be trekked and consulted and relevant rescue/ relocation permits must be obtained from SAHRA and or the Department of Health before any grave relocation can take place. Furthermore, a professional archaeologist must be retained to oversee the relocation process in accordance with the National Heritage Resources Act 25 of 1999.
- Should chance archaeological materials or human burial remains be exposed during subsurface mining work on any section of the proposed development laydown sites, 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 construction scheduling while recovering archaeological and any affected cultural heritage data as stipulated by the NHRA regulations.
- Subject to the recommendations herein made and the implementation of the mitigation measures and adoption of the project EMP, there are no other significant cultural heritage resources barriers to the proposed mining right application. The Heritage authority may approve the proposed mining right to proceed as planned with special commendations to implement the recommendations herein made.
- The Site Manager must then make an initial assessment of the extent of the find and confirm the extent of the work stoppage in that area before informing ISS
- It is the responsibility of the applicant to protect the site from publicity (i.e., media) until a mutual agreement is reached.

- Noteworthy that any measures to cover up the suspected archaeological material or to collect any resources are illegal and punishable by law. In the same manner, no person may exhume or collect such remains, whether of recent origin or not, without the endorsement by SAHRA
- The applicant is reminded that the unavailability of archaeological materials (e.g., stone tools and graves, etc) and fossils does not mean they do not occur, archaeological material might be hidden underground, and as such the client is reminded to take precautions during mining.
- The footprint impact of the proposed mining activities should be kept minimal to limit the possibility of encountering chance finds within the proposed development site.
- Overall, impacts on heritage resources are not considered to be significant for the project receiving environment. It is thus concluded that the project may be cleared to proceed as planned subject to the Heritage Authority ensuring that detailed heritage monitoring procedures are included in the project EMP for the mining phase, including chance archaeological finds mitigation procedure in the project EMP (See Appendix 1).
- The chance finds process will be implemented, when necessary, especially when archaeological materials and burials are encountered during subsurface mining activities.
- The findings of this report, with approval of the SAHRA, may be classified as accessible to any interested and affected parties within the limits of the laws.

11 CONCLUDING REMARKS

The literature review and field surveys confirmed that the project area is situated within a contemporary cultural landscape dotted with settlements with long local history. In terms of the archaeology and heritage in respect of the proposed mining right application site, there are no 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 mining, should mining activities commence on the site. The procedure for reporting chance finds has been laid out (see Appendix 3). This report concludes that the proposed mining right sites may be approved by SAHRA to proceed as planned subject to recommendations herein made and a heritage monitoring plan is incorporated into the EMP (also see Appendices). The mitigation measures are informed by the results of the AIA/HIA study and principles of heritage management enshrined in the NHRA, Act 25 of 1999.

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APPENDIX 1: CHANCE FIND PROCEDURE FOR THE PROPOSED MINING RIGHT APPLICATION ON VARIOUS PORTION OF THE FARM KAPSTEWEL 436 WITHIN TSANTSABANE LOCAL MUNICIPALITY, ZF MGCAWU DISTRICT MUNICIPALITY, IN THE NORTHERN CAPE PROVINCE.

April 2022

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

CHANCE FIND PROCEDURE

Introduction

An Archaeological Chance Find Procedure (CFP) is a tool for the protection of previously unidentified cultural heritage resources during construction and mining. The main purpose of a CFP is to raise awareness of all construction, mine 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 mining 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 mining development 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 construction.

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.

Background

The development site is subject to heritage survey and assessment at planning stage in accordance with the 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 during mining or any associated mining 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 proposed mining right application. The AIA/HIA conducted was very comprehensive covering the entire site.

Purpose

The purpose of this Chance Find Procedure is to ensure the protection of previously unrecorded heritage resources along the proposed project 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 digging of foundations and movement of construction equipment. The proposed mining activities have the potential to cause severe impacts on significant tangible and intangible cultural heritage resources buried beneath the surface or concealed by tall grass cover. Integrated Specialist Services and Environmental Consultants developed this Chance Find Procedure to define the process which govern the management of Chance Finds during construction. This ensures that appropriate treatment of chance finds while also minimizing disruption of the construction 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 mining scheduling. It is recommended that due to the low to 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 mining.

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.

CHANCE FIND PROCEDURE

General

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

- All clearance/mining 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.
- 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. If 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 permit application process.
- Once authorisation has been given by SAHRA, the Applicant will be informed when construction activities can resume.

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), ISS 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 company.

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

Appendix 2: Heritage Management Plan Input into the Proposed mining 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 PHRA.		When necessary	C CECO	SM	ECO	EA EM PM
		Should any remains be found on site that is potentially human remains, the PHRA and South African Police Service should be contacted.		When necessary	C CECO	SM	ECO	EA EM PM
Rehabilitation Phase								
		Same as mining phase.						
Operational Phase								
		Same as mining phase.						

Appendix 3: Legal background 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.

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.

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.