

**DRAFT HERITAGE IMPACT ASSESSMENT STUDY FOR PROPOSED MINING RIGHTS
ON PORTION 9 OF FARM BANKFONTEIN 215 IS, ERMELO, MPUMALANGA
PROVINCE: Ref Number MP 30/5/1/2/2/ 10387 MR**



Prepared by

Author: Ms N'wa-Phaphama Madali Dolphin Mabale
Ndalama Heritage Consulting
Mobile: 076 310 7581
e-mail: dolphin.mabale@gmail.com

Prepared for

TPR Mining Resources (Pty) Ltd

On Behalf of

Katma Communications and Projects CC

Table of Contents

List of Figures.....	i
List of tables.....	ii
Declaration of Interest.....	iii
Management summary.....	iv
1. INTRODUCTION.....	1
2. SITE LOCATION.....	1
3. SITE DESCRIPTION AND NATURE OF PROPOSED ACTIVITIES.....	2
4. CURRENT LAND USE.....	4
5. TERMS OF REFERENCE.....	4
6.1 National Estate.....	4
5.2 Section 38.....	6
7. SITE SIGNIFICANCE.....	6
7.1 Degrees of Significance.....	8
7.2 Significance rating of sites.....	8
8. METHODS AND LIMITATIONS.....	10
9. THE PALAEOLOGY OF THE MPUMALANGA PROVINCE.....	10
10. SURVEY OBSERVATIONS.....	11
References.....	21

List of Figures

Figure 1: Topographic map of the proposed development area with the proposed site demarcated in red.....	1
Figure 2 Aerial photographic map indicating the locality of the proposed development site in Ermelo on Farm Brakfontein 215.....	2
Figure 3: Aerial photographic map of the proposed site indicating the proposed prospecting points within the proposed development site.....	3
Figure 4: Soya ban plantation indicating the current land use activities of the proposed development site.....	4
Figure 5: The south-westerly section of the site with grasslands and wattle trees ...	12
Figure 6: View of the prospecting site from the north-west.....	12
Figure 7: Typical grasslands of the region on the proposed prospecting site.....	13
Figure 8: A view of the proposed prospecting site towards the south.....	13
Figure 9: A view of the proposed prospecting site indicating current agricultural activities in the background.....	14
Figure 10: A general view of the proposed site towards the south-east.....	14
Figure 11: A general view of the proposed site towards the east.....	15

Figure 12: Redundant water trough and pipes to the south-west of the site.....	15
Figure 13: An old water well to the south of the site.....	16
Figure 14: An old demolished water storage tank	16
Figure 15: A wider view of the demolished old water tank as indicated in Figure 14	17
Figure 16: A wall of an old structure to the southeast of the site protruding from wattle bushes	17
Figure 17: An old structure probably dating to the colonial times with wooden floorboards in the back ground.....	18
Figure 18: A closer inspection of the stone bricks that were used for the construction of the dilapidated old structure.	18
Figure 19: Old steps leading to the upper floor of the dilapidated structure	19
Figure 20: Lithic pillars photographed randomly around the development site.....	19
Figure 21: A general view of the proposed prospecting site towards the north	20

List of tables

Table 1: Site coordinates of the application area	2
Table 2: Grading and rating systems of identified heritage resources in terms of the National Heritage Resources Act (Act 25 of 1999).....	8
Table 3: SAHRIS Palaeontological (fossil) Sensitivity Map	10

Declaration of Interest

I, Dolphin Mabale, declare that –

- I act as an independent specialist;
- I am conducting any work and activity relating to the proposed mining rights on Portion 9 of Farm Bankfontein 215 IS, Ermelo, Mpumalanga Province in an objective manner, even if this results in views and findings that are not favourable to the client;
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have the required expertise in conducting the specialist report and I will comply with legislation, including the relevant Heritage Legislation (National Heritage Resources Act no. 25 of 1999), the Minimum Standards: Archaeological and Palaeontological Components of Impact Assessment (SAHRA and the CRM section of ASAPA), regulations and any guidelines that have relevance to the proposed activity;
- I have not, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- All the particulars furnished by me in this declaration are true and correct.



.....
Signature of Specialist

28 June 2023

Management summary

Dolphin Mabale of Ndalama Heritage Consulting was appointed by TPR Mining Resources (Pty) Ltd to conduct a survey and specialist input for the area of the mining rights on Portion 9 of Farm Bankfontein 215 IS, Ermelo, Mpumalanga Province.

The investigation was conducted on the 20th April 2023. The scope of the survey was to investigate for the presence of heritage or archaeological materials on the proposed development site.

The findings are summarized as follows;

- No structures older than 60 years were identified.
- No palaeontological remains or any graves were identified.
- No heritage resources as described under Section 3 of the national heritage Resource Act (25 of 1999) were identified.
- Development can go ahead without any further mitigation.

It should be kept in mind that archaeological deposits usually occur below ground level. Should archaeological artefacts or skeletal materials be revealed on the sites during construction activities, such activities should be halted, and a cultural/archaeological heritage specialist notified in order for an investigation and evaluation of the finds to take place.

From an archaeological and cultural heritage resources perspective, we recommend SAHRA to approve the project as planned without any further heritage mitigation.

1. INTRODUCTION

This report on a heritage impact assessment of the proposed mining rights on Portion 9 of Farm Bankfontein 215 IS, Hendrina, Mpumalanga Province was prepared in conjunction with preliminary desktop surveys, and field observations, and was compiled on the 28th June 2023. The site visit was conducted on the 20th April 2023. The report was commissioned by TPR Mining Resources (Pty) Ltd.

2. SITE LOCATION

The area where mining operation will be commissioned is situated, is approximately 33 km along the R38 road connecting unnamed road south east of Hendrina to Breyten on Portion 9 of the Farm Bankfontein 215 IS within Msukaligwa Local Municipality, District of Gert Sibande in the Mpumalanga Province. The proposed area is 225 ha in size.

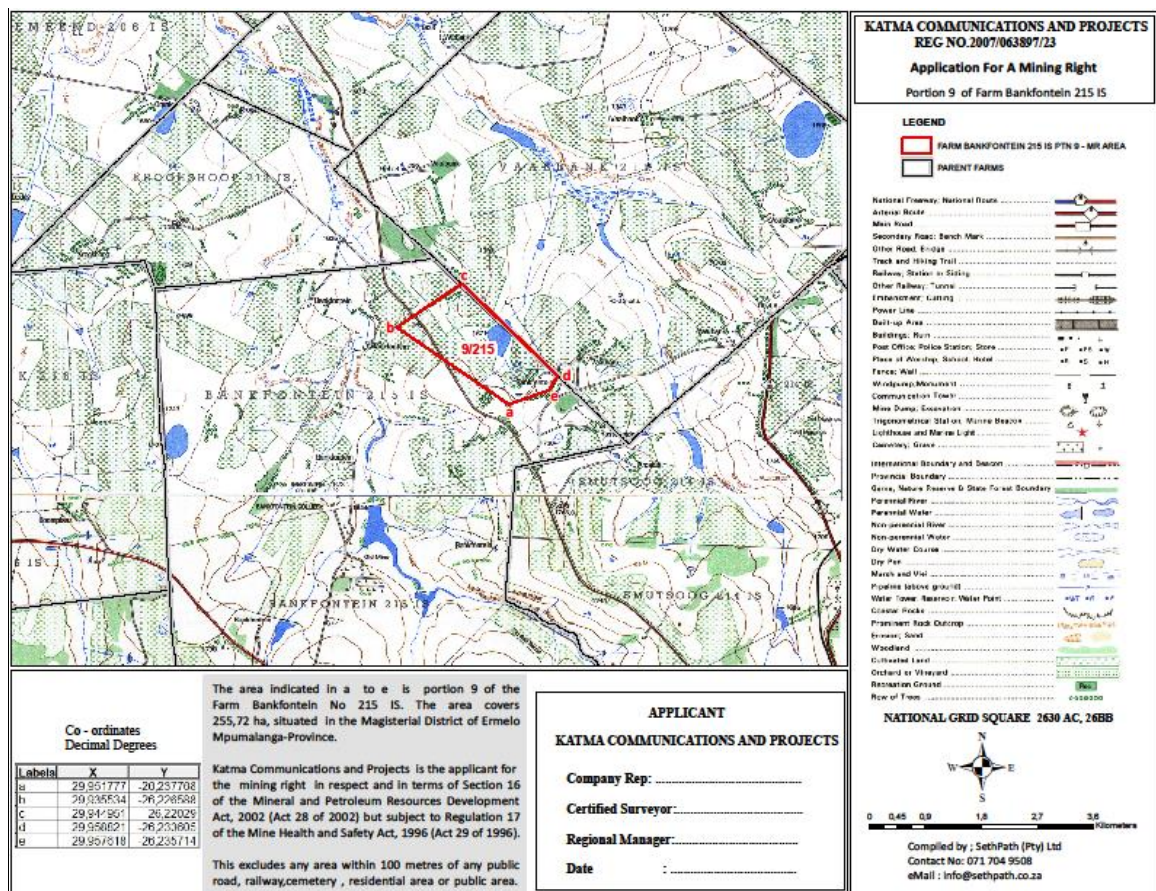


Figure 1: Topographic map of the proposed development area with the proposed site demarcated in red

Latitude	Longitude
A. -26.237768 S	A. 29.951777 E
B. -26.226588 S	B. 29.935534 E
C. -26.22029 S	C. 29.944951 E
D. -26.233605 S	D. 29.958821 E
E. -26.235714 S	E. 29.957618 E

Table 1: Site coordinates of the application area

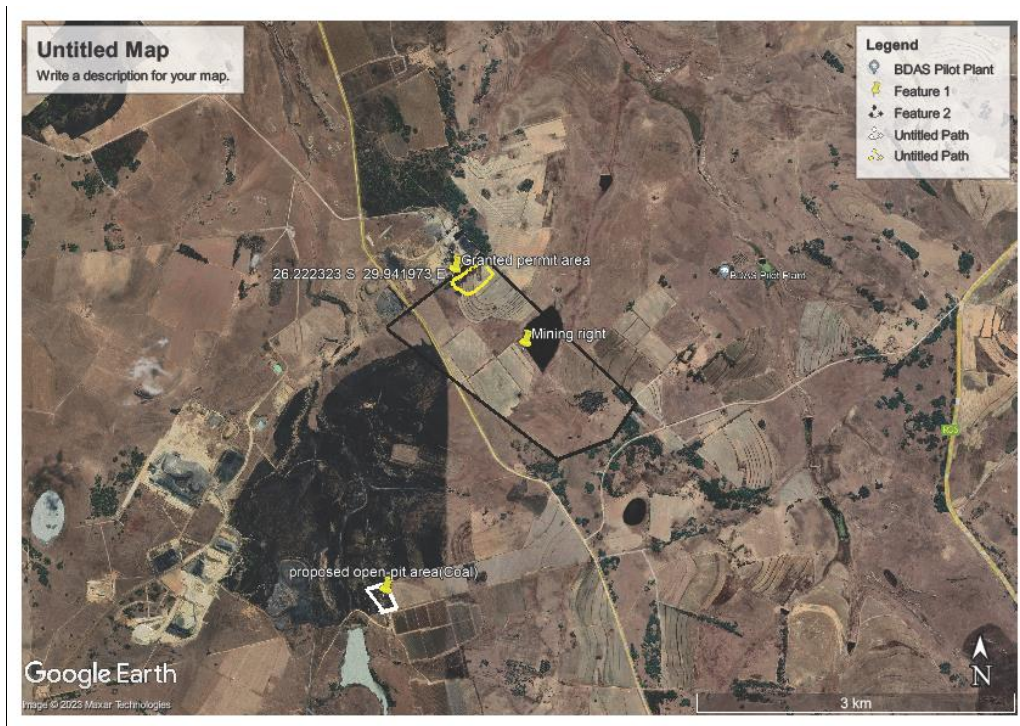


Figure 2 Aerial photographic map indicating the locality of the proposed development site in Ermelo on Farm Brakfontein 215

3. SITE DESCRIPTION AND NATURE OF PROPOSED ACTIVITIES

The applicant proposes to mine Coal and Pseudocoal ore utilising the open-cast mining as determined by the shallow depth of the commodity within the area designated in Figure 3 with geographical references as indicated in Table 1.

This application relates to the open cast surface mining of Coal. There are typically used in the power generation, export, domestic, metallurgical, liquefaction and chemical sectors.

Of the overall MRA, approximately 240 Ha will be earmarked for mining, whilst a

further 10 Ha will be affected by surface infrastructure.

The deposit will be harvested by means of an open-cast mining. The method that will be employed is a very basic form of open cast mining, and a 255,72 Ha area will be demarcated for mining activities. Blasting and subsequent mining of the orebody utilising a truck and shovel operation will be conducted. The mined ore will be crushed and screened utilising a mobile crushing and screening plant. A front-end loader will be utilised to load the material into haulage trucks and transported to the stockpile area.

The project infrastructure and activities will include site clearance, removal of topsoil and overburden stockpiling, site establishment, including the establishment of an access route, mobilisation of equipment and preparation of area for mining, excavation of an open cast, blasting, loading zone, loading and dust control, crushing and screening of ore, hauling and transporting of ore, ablation facilities and waste storage area and rehabilitation of site. The mining operation will commence on the shallow side and continue through con-current rehabilitation (strip mining) in order to ensure that all the Coal ore is mined out.

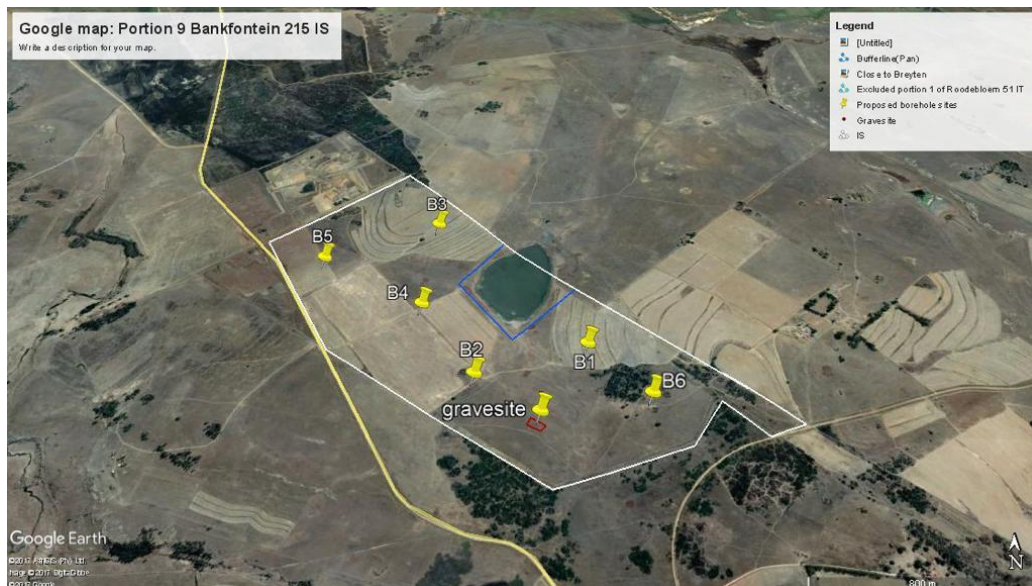


Figure 3: Aerial photographic map of the proposed site indicating the proposed prospecting points within the proposed development site

4. CURRENT LAND USE

The land is currently being used for various purposes as indicated in figures 4 below.



Figure 4: Soya bean plantation indicating the current land use activities of the proposed development site

5. TERMS OF REFERENCE

To assess archaeological and any cultural heritage resources and possible impacts on the sites of the proposed mining rights Portion 9 of the Farm Bankfontein 215 IS within Msukaligwa Local Municipality, District of Gert Sibande in the Mpumalanga Province.

6. NATIONAL HERITAGE RESOURCE ACT (25 OF 1999)

6.1 National Estate

Section 3 of the National Heritage Resource Act (25 of 1999) lists a wide range of national resources that qualify as part of South Africa national estate. When

conducting Heritage Impact Assessment (HIA) the following heritage resources have to be identified:

- (a) Places, buildings structures and equipment of cultural significance
- (b) Places to which oral traditions are attached or which are associated with living heritage
- (c) Historical settlements and townscapes
- (d) Landscapes and natural features of cultural significance
- (e) Geological sites of scientific or cultural importance
- (f) Archaeological and paleontological sites
- (g) Graves and burial grounds including-
 - (i) ancestral graves
 - (ii) royal graves and graves of traditional leaders
 - (iii) graves of victims of conflict
 - (iv) graves of individuals designated by the Minister by notice in the Gazette
 - (v) historical graves and cemeteries; and
 - (vi) other human remains which are not covered by in terms of the Human Tissue Act, 1983, Act No. 65 of 1983
- (h) Sites of significance relating to the history of slavery in South Africa
 - (i) moveable objects
 - (ii) objects recovered from the soil or waters of South Africa, including archaeological and paleontological objects and material, meteorites and rare geological specimens
 - (iii) objects to which oral traditions are attached or which are associated with living heritage
 - (iv) ethnographic art and objects
 - (v) military objects
 - (vi) objects of decorative or fine art
 - (vii) objects of scientific or technological interest; and graphic, film or video material or sound recordings, excluding those that are public records as defined in section 1
 - (xiv) of the National Archives of South Africa Act, 1996, Act No. 43 of 1996.

5.2 Section 38

There are a number of legislative frameworks that are relevant to the proposed activities but this report is prompted by the National Heritage Resources Act, Act 25 of 1999. In terms of Section 38 of this Act, subject to the provisions of subsections (7), (8) and (9), any person who intends to undertake a development categorised as;

(a) the construction of a road, wall, powerline, pipeline, canal or other similar form of linear development or barrier exceeding 300m in length;

(b) The construction of a bridge or similar structure exceeding 50 m in length;

(c) Any development or other activity which will change the character of a site;

(i) Exceeding 5 000 m² in extent; or

(ii) Involving three or more existing erven or subdivisions thereof; or

(iii) Involving three or more erven or divisions thereof which have been consolidated within the past five years; or

(iv) The costs of which will exceed a sum set in terms of regulations by SAHRA or a provincial heritage resources authority;

(d) The re-zoning of a site exceeding 10 000 m² in extent; or

(e) Any other category of development provided for in regulations by SAHRA or a provincial heritage resources authority, must at the very earliest stages of initiating such a development, notify the responsible heritage resources authority and furnish it with details regarding the location, nature and extent of the proposed development.

7. SITE SIGNIFICANCE

The following guidelines for determining site *significance* were developed by SAHRA in 2003. It must be kept in mind that the various aspects are not mutually exclusive, and that the evaluation of any site is done with reference to any number of these.

(a) Historic value

- Is it important in the community, or pattern of history?
- Does it have strong or special association with the life or work of a person, group or organization of importance in history?

- Does it have significance relating to the history of slavery?

(b) Aesthetic value

- Is it important in exhibiting particular aesthetic characteristics valued by a community or cultural group?

(c) Scientific value

- Does it have potential to yield information that will contribute to an understanding of natural or cultural heritage?
- Is it important in demonstrating a high degree of creative or technical achievement at a particular period?

(d) Social value

- Does it have strong or special association with a particular community or cultural group for social, cultural or spiritual reasons?

(e) Rarity

- Does it possess uncommon, rare or endangered aspects of natural or cultural heritage?

(f) Representivity

- Is it important in demonstrating the principal characteristics of a particular class of natural or cultural places or objects?
- What is the importance in demonstrating the principal characteristics of a range of landscapes or environments, the attributes of which identify it as being characteristic of its class?
- Is it important in demonstrating the principal characteristics of human activities (including way of life, philosophy, custom, process, land-use, function, design or technique) in the environment of the nation, province, region or locality?

7.1 Degrees of Significance

This category requires a broad, but detailed knowledge of the various disciplines that might be involved. Large sites, for example, may not be very important, but a small site, on the other hand, may have great significance as it is unique for the region.

7.2 Significance rating of sites

Level	Significance	Possible action
National (Grade I)	Site of National Value	Nominated to be declared by SAHRA
Provincial (Grade II)	Site of Provincial Value	Nominated to be declared by PHRA
Local Grade (IIIA)	Site of High Value Locally	Retained as heritage
Local Grade (IIIB)	Site of High Value Locally	Mitigated and part retained as heritage
General Protected Area A	Site of High to Medium	Mitigation necessary before destruction
General Protected Area B	Medium Value	Recording before destruction
General Protected Area C	Low Value	No action required before destruction

Table 2: Grading and rating systems of identified heritage resources in terms of the National Heritage Resources Act (Act 25 of 1999)

(i) Low (ii) Medium (iii) High

This category relates to the actual artefact or site in terms of its actual value as it is found today, and refers more specifically to the condition that the item is in. For

example, an archaeological site may be the only one of its kind in the region, thus its regional significance is high, but there is heavy erosion of the greater part of the site, therefore its significance rating would be medium to low. Generally speaking the following are guidelines for the nature of the mitigation that must take place as Phase 2 of the project.

High

- This is a do not touch situation, alternative must be sought for the project, examples would be natural and cultural landscapes like the Mapungubwe Cultural Landscape World Heritage Site, or the house in which John Langalibalele lived in.
- Certain sites, or features may be exceptionally important, but do not warrant leaving entirely alone. In such cases, detailed mapping of the site and all its features is imperative, as is the collection of diagnostic artefactual material on the surface of the site. Extensive excavations must be done to retrieve as much information as possible before destruction. Such excavations might cover more than half the site and would be mandatory; it would also be advisable to negotiate with the client to see what mutual agreement in writing could be reached, whereby part of the site is left for future research.

Medium

- Sites of medium significance require detailed mapping of all the features and the collection of diagnostic artefactual material from the surface of the site. A series of test trenches and test pits should be excavated to retrieve basic information before destruction.

Low

- These sites require minimum or no mitigation. Minimum mitigation recommended could be a collection of all surface materials and/ or detailed site mapping and documentation. No excavations would be considered to be necessary.

In all the above scenarios permits will be required from the National Heritage Resources Agency (SAHRA) as per the relevant law, namely the National Heritage Resources Act (Act 25 of 1999) destruction of any heritage site may only take place when a permit has been issued by SAHRA or its provincial equivalent should this exist.

8. METHODS AND LIMITATIONS

- A desktop study of previous research as well as a selection of heritage impact assessment reports of the region were explored in order to contextualise the archaeological and heritage occurrence and sequence of the region in question.
- The SAHRIS site sensitivity map was consulted.
- During a visit to the site on the 20th of April 2023, the area of proposed development site was examined. The survey entailed a detailed foot survey of the proposed site through acceptable heritage standards.
- The main limitation to the survey of the proposed development site was tall thick bushes which prevented the expected observation and recording of a colonial period graveyard. A second survey will be undertaken to yield the recording of the graves.

9. THE PALAEOLOGY OF THE MPUMALANGA PROVINCE

Colour	Sensitivity	Required Action
RED	VERY HIGH	field assessment and protocol for finds is required
ORANGE/YELLOW	HIGH	desktop study is required and based on the outcome of the desktop study, a field assessment is likely
GREEN	MODERATE	desktop study is required
BLUE	LOW	no palaeontological studies are required however a protocol for finds is required
GREY	INSIGNIFICANT/ZERO	no palaeontological studies are required
WHITE/CLEAR	UNKNOWN	these areas will require a minimum of a desktop study. As more information comes to light, SAHRA will continue to populate the map.

Table 3: SAHRIS Palaeontological (fossil) Sensitivity Map

According to the SAHRIS sensitivity map above, the Mpumalanga Province is generally highly sensitive for palaeontology, and is home to the famous Sudwala and Echo Caves. The Barberton Greenstone belt of the Makhonjwa Mountains is one of the oldest and best exposed Archaean greenstone belts on Earth and date back to between 3.2 and 3.6 billion years (Groenewald, et al., 2014; De Wit, 2010; Mpumalanga Happenings, n.d.). The town of Ermelo records red entirely. The proposed development site flags red, which according to the Palaeontological (fossil) Sensitivity Map which means that palaeo-sensitivity is very high. This means a high possibility that fossils will be present in the outcrop areas of the unit or in associated sediments that underlie the unit, but there are no outcrops on the development site. In addition, the site as well as the surrounding areas have already been disturbed with coal mining and other extrusive and intrusive activities.

10. SURVEY OBSERVATIONS

The land is currently used for agricultural purposes. The current crop in the field is soyabean, which occupies the greater percentage of the site as indicated in the images below. The survey did not identify any archaeological remains, graves or any palaeontological remains. There site is characterised by grasslands, wattle trees and soyabean crop.

The southeastern direction of the proposed prospecting site is characterised by wattle bushes which towards the west conceal a dilapidated house structure. As evidenced by the nature of the building materials, the structure was of colonial age, constructed with stone blocks and had wooden floorboards. The colonial structure seems to have housed two floor levels as evidenced by a stone staircase which could have led to the upper floor of the structure. In addition, it appears that the structure was at some point recently extended with small fire-baked bricks towards the south of the structure.

At random points, the site survey recorded lithic pillars which at close inspection and analysis, could have been positioned as farm boundary indicators. The survey had been expected to yield and record a graveyard of the original farm, but these were neither observed nor recorded due to tall thick grasses. A second survey which will be conducted with the descendants of the original farm owners is expected to observe and record the graveyard. A conversation with the descendants is also expected to result in a decision about the fate of the graves.



Figure 5: The south-westerly section of the site with grasslands and wattle trees



Figure 6: View of the prospecting site from the north-west



Figure 7: Typical grasslands of the region on the proposed prospecting site



Figure 8: A view of the proposed prospecting site towards the south



Figure 9: A view of the proposed prospecting site indicating current agricultural activities in the background



Figure 10: A general view of the proposed site towards the south-east



Figure 11: A general view of the proposed site towards the east



Figure 12: Redundant water trough and pipes to the south-west of the site



Figure 13: An old water well to the south of the site



Figure 14: An old demolished water storage tank



Figure 15: A wider view of the demolished old water tank as indicated in Figure 14



Figure 16: A wall of an old structure to the southeast of the site protruding from wattle bushes



Figure 17: An old structure probably dating to the colonial times with wooden floorboards in the back ground



Figure 18: A closer inspection of the stone bricks that were used for the construction of the dilapidated old structure.



Figure 19: Old steps leading to the upper floor of the dilapidated structure



Figure 20: Lithic pillars photographed randomly around the development site



Figure 21: A general view of the proposed prospecting site towards the north

RECOMMENDATIONS

- No structures older than 60 years, graves or any palaeontological remains were identified. The structures that are older than 60 years have already been demolished long ago as explained in the survey observation.
- No heritage resources as described under Section 3 of the National Heritage Resource Act (25 of 1999), as well as in the literature cited were identified.
- Development will go ahead once the graves that exist to the south of the prospecting site have been identified and a decision based on and complies with the specifications of the National Heritage Resource Act (25 of 1999) as amended has been taken.

It should be kept in mind that archaeological deposits usually occur below ground level. Should archaeological artefacts or skeletal materials be revealed on the sites during construction activities, such activities should be halted, and a cultural/archaeological heritage specialist notified in order for an investigation and evaluation of the finds to take place.

From an archaeological and cultural heritage resources perspective, we recommend SAHRA to approve the project as planned without any further heritage mitigation.

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