

**Cultural heritage impact assessment for
THE PROPOSED MINING ACTIVITIES ON PORTIONS OF THE FARMS
KENNEDY'S VALE 361KT AND SPITSKOP 333KT, GREATER TUBATSE LOCAL
MUNICIPALITY, LIMPOPO PROVINCE**

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Declaration:

I, J.A. van Schalkwyk, declare that I do not have any financial or personal interest in the proposed development, nor its developers or any of their subsidiaries, apart from the provision of heritage assessment and management services, for which a fair remuneration is charged.



J A van Schalkwyk (D Litt et Phil)
Heritage Consultant
January 2016

EXECUTIVE SUMMARY

CULTURAL HERITAGE IMPACT ASSESSMENT FOR THE PROPOSED MINING ACTIVITIES ON PORTIONS OF THE FARMS KENNEDY'S VALE 361KT AND SPITSKOP 333KT, GREATER TUBATSE LOCAL MUNICIPALITY, LIMPOPO PROVINCE

BCR Minerals (Pty) Ltd propose to undertake mining activities on Portions of the farms Kennedy's Vale 361KT and Spitskop 333KT, Greater Tubatse local municipality, Limpopo Province.

In accordance with Section 38 of the NHRA, an independent heritage consultant was appointed by **Environmental Management Assistance** to conduct a cultural heritage assessment to determine if the mining activities would have an impact on any sites, features or objects of cultural heritage significance.

A number of sites were identified and can be summarised as follows (see Appendix 5 for more detail on each identified site):

- Stone tool were found to occur as low density surface scatter in erosion gullies. As the density of artefacts is very low, no further action is required.
- A total of five old homestead sites were identified in the proposed mining area and it is anticipated that it would be impacted on by the mining activities.
- A total of nine informal burial places were identified. All are located inside of or in close proximity to the mining area and it is anticipated that it would be impacted on by the mining activities.
- A single site defined as of industrial/infrastructural heritage was identified.

Reasoned opinion as to whether the proposed activity should be authorised:

- From a heritage point of view it is recommended that the proposed development be allowed to continue, on condition of acceptance of the mitigation measures presented below.

Conditions for inclusion in the environmental authorisation:

- It is recommended that the homestead sites are retained, and that it should be fenced off for the duration of the mining, leaving a buffer zone of at least ten metres from the outer edge of the stone walling/physical features. If the sites cannot be retained, it should be documented (mapped and excavated) by an archaeologist after obtaining a permit from SAHRA (see Appendix 5 for more detail the proposed mitigation for each identified site).
 - If mining takes place in these areas, the community should be consulted to determine if there are any more graves in the region, especially those of young children who, in many cases, are buried inside the old homestead.
- It is recommended that the burial sites are retained and it should be fenced off for the duration of the mining activities, leaving a buffer zone of at least five metres from the outer edge of the graves. If the graves cannot be retained, it should be relocated, but only

on condition of following the correct procedures (see Appendix 5 for more detail on each identified site).

- It is recommended that the industrial/infrastructural heritage feature (irrigation system) should be documented (photographed and mapped) in before mining activities takes place.
- Should archaeological sites or graves be exposed during construction work, it must immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made. According to local inhabitant, Mr Silas Mosethla, old informal burial sites might still be located in some places, but it would be difficult to trace due to “lack of memory” and the current dense vegetation.



J A van Schalkwyk
Heritage Consultant
January 2016

TECHNICAL SUMMARY

Property details	
Province	Limpopo
Magisterial district	Lydenburg
Local municipality	Greater Tubatse
Topo-cadastral map	2430CC
Farm name	Portions 8 & 22 of Kennedy's Vale 361KT; Portions 24, 25, 26 & 28 of Spitskop 333KT
Closest town	Steelpoort

Development criteria in terms of Section 38(1) of the NHR Act	Yes/No
Construction of road, wall, power line, pipeline, canal or other linear form 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 past five years	No
Rezoning of site exceeding 10 000 sq m	Yes
Any other development category, public open space, squares, parks, recreation grounds	No

Development	
Description	Mining activities
Project name	-

Land use	
Previous land use	Farming
Current land use	Farming/mining

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY	II
TECHNICAL SUMMARY	IV
TABLE OF CONTENTS	V
LIST OF FIGURES.....	V
GLOSSARY OF TERMS AND ABBREVIATIONS.....	VI
1. INTRODUCTION.....	1
2. TERMS OF REFERENCE	1
3. HERITAGE RESOURCES.....	2
4. STUDY APPROACH AND METHODOLOGY	3
5. SITE SIGNIFICANCE AND ASSESSMENT	5
6. PROJECT DESCRIPTION.....	7
7. DESCRIPTION OF THE AFFECTED ENVIRONMENT	8
8. RECOMMENDATIONS.....	18
9. REFERENCES.....	20
APPENDIX 1: CONVENTIONS USED TO ASSESS THE IMPACT OF PROJECTS ON HERITAGE RESOURCES.....	22
APPENDIX 2. RELEVANT LEGISLATION	24
APPENDIX 3. RELOCATION OF GRAVES	26
APPENDIX 4. SPECIALIST COMPETENCY.....	27
APPENDIX 5: INVENTORY OF IDENTIFIED CULTURAL HERITAGE SITES.....	28

LIST OF FIGURES

	Page
Fig. 1. Map indicating the track log of the field survey.	4
Fig. 2. Location of the study area (red outline) in regional context.	7
Fig. 3. Layout of the proposed mining area (red polygons).	8
Fig. 4. Various views over the study area.	9
Fig. 5. Dwarsrivier geological site.	10
Fig. 6. Stone tools and San rock art.....	11
Fig. 7. Iron Age pottery and stone walled site.....	12
Fig. 8. A typical farm worker homestead in the region.....	13
Fig. 9. Informal burial places.....	13
Fig. 10. Infrastructural heritage.	14
Fig. 11. Map indicating the distribution of identified heritage sites and features.	17

GLOSSARY OF TERMS AND ABBREVIATIONS

TERMS

Study area: Refers to the entire study area as indicated by the client in the accompanying Fig. 1 - 2.

Stone Age: The first and longest part of human history is the Stone Age, which began with the appearance of early humans between 3-2 million years ago. Stone Age people were hunters, gatherers and scavengers who did not live in permanently settled communities. Their stone tools preserve well and are found in most places in South Africa and elsewhere.

Early Stone Age	2 000 000 - 150 000 Before Present
Middle Stone Age	150 000 - 30 000 BP
Later Stone Age	30 000 - until c. AD 200

Iron Age: Period covering the last 1800 years, when new people brought a new way of life to southern Africa. They established settled villages, cultivated domestic crops such as sorghum, millet and beans, and they herded cattle as well as sheep and goats. As they produced their own iron tools, archaeologists call this the Iron Age.

Early Iron Age	AD 200 - AD 900
Middle Iron Age	AD 900 - AD 1300
Late Iron Age	AD 1300 - AD 1830

Historical Period: Since the arrival of the white settlers - c. AD 1840 - in this part of the country.

ABBREVIATIONS

ADRC	Archaeological Data Recording Centre
ASAPA	Association of Southern African Professional Archaeologists
CS-G	Chief Surveyor-General
EIA	Early Iron Age
ESA	Early Stone Age
LIA	Late Iron Age
LSA	Later Stone Age
HIA	Heritage Impact Assessment
MSA	Middle Stone Age
NASA	National Archives of South Africa
NHRA	National Heritage Resources Act
PHRA	Provincial Heritage Resources Agency
SAHRA	South African Heritage Resources Agency

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1. INTRODUCTION

BCR Minerals (Pty) Ltd propose to undertake mining activities on Portions of the farms Kennedy's Vale 361KT and Spitskop 333KT, Greater Tubatse local municipality, Limpopo Province.

South Africa's heritage resources, also described as the 'national estate', comprise a wide range of sites, features, objects and beliefs. However, according to Section 27(18) of the National Heritage Resources Act (NHRA), No. 25 of 1999, no person may destroy, damage, deface, excavate, alter, remove from its original position, subdivide or change the planning status of any heritage site without a permit issued by the heritage resources authority responsible for the protection of such site.

In accordance with Section 38 of the NHRA, an independent heritage consultant was appointed by **Environmental Management Assistance** to conduct a cultural heritage assessment to determine if the mining activities would have an impact on any sites, features or objects of cultural heritage significance.

This report forms part of the Environmental Impact Assessment (EIA) as required by the EIA Regulations in terms of the National Environmental Management Act, 1998 (Act No. 107 of 1998) as amended and is intended for submission to the South African Heritage Resources Agency (SAHRA).

2. TERMS OF REFERENCE

This report does not deal with development projects outside of or even adjacent to the study area as is presented in Section 5 of this report. The same holds true for heritage sites, except in a generalised sense where it is used to create an overview of the heritage potential in the larger region.

2.1 Scope of work

The aim of this study is to determine if any sites, features or objects of cultural heritage significance occur within the boundaries of the area where the mining activities is to take place.

This includes:

- Conducting a desk-top investigation of the area;
- A visit to the proposed development site,

The objectives were to

- Identify possible archaeological, cultural and historic sites within the proposed development areas;
- Evaluate the potential impacts of construction, operation and maintenance of the proposed development on archaeological, cultural and historical resources;
- Recommend mitigation measures to ameliorate any negative impacts on areas of archaeological, cultural or historical importance.

2.2 Limitations

The investigation has been influenced by the following factors:

- It is assumed that the description of the proposed project, provided by the client, is accurate.
- No subsurface investigation (i.e. excavations or sampling) were undertaken, since a permit from SAHRA is required for such activities.
- It is assumed that the public consultation process undertaken as part of the Environmental Impact Assessment (EIA) is sufficient and that it does not have to be repeated as part of the heritage impact assessment.
- The unpredictability of buried archaeological remains.
- This report does not consider the palaeontological potential of the site.

3. HERITAGE RESOURCES

3.1 The National Estate

The NHRA (No. 25 of 1999) defines the heritage resources of South Africa which are of cultural significance or other special value for the present community and for future generations that must be considered part of the national estate to include:

- places, buildings, structures and equipment of cultural significance;
- places to which oral traditions are attached or which are associated with living heritage;
- historical settlements and townscapes;
- landscapes and natural features of cultural significance;
- geological sites of scientific or cultural importance;
- archaeological and palaeontological sites;
- graves and burial grounds, including-
 - ancestral graves;
 - royal graves and graves of traditional leaders;
 - graves of victims of conflict;
 - graves of individuals designated by the Minister by notice in the Gazette;
 - historical graves and cemeteries; and
 - other human remains which are not covered in terms of the Human Tissue Act, 1983 (Act No. 65 of 1983);
- sites of significance relating to the history of slavery in South Africa;
- movable objects, including-
 - objects recovered from the soil or waters of South Africa, including archaeological and palaeontological objects and material, meteorites and rare geological specimens;
 - objects to which oral traditions are attached or which are associated with living heritage;
 - ethnographic art and objects;
 - military objects;
 - objects of decorative or fine art;

- objects of scientific or technological interest; and
- books, records, documents, photographic positives and negatives, 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).

3.2 Cultural significance

In the NHRA, Section 2 (vi), it is stated that “cultural significance” means aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value or significance. This is determined in relation to a site or feature’s uniqueness, condition of preservation and research potential.

According to Section 3(3) of the NHRA, a place or object is to be considered part of the national estate if it has cultural significance or other special value because of

- its importance in the community, or pattern of South Africa's history;
- its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;
- its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
- its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- its importance in demonstrating a high degree of creative or technical achievement at a particular period;
- its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons;
- its strong or special association with the life or work of a person, group or organisation of importance in the history of South Africa; and
- sites of significance relating to the history of slavery in South Africa.

A matrix was developed whereby the above criteria were applied for the determination of the significance of each identified site (see Appendix 1). This allowed some form of control over the application of similar values for similar identified sites.

4. STUDY APPROACH AND METHODOLOGY

4.1 Extent of the Study

This survey and impact assessment covers the area as presented in Section 6 and illustrated in Figure 2.

4.2 Methodology

4.2.1.1 Survey of the literature

A survey of the relevant literature was conducted with the aim of reviewing the previous research done and determining the potential of the area. In this regard, various

anthropological, archaeological and historical sources were consulted – see list of references in Section 9.

- Information on events, sites and features in the larger region were obtained from these sources.

4.2.1.2 Data bases

The *Heritage Atlas Database*, the *Environmental Potential Atlas*, the *Chief Surveyor General* and the *National Archives of South Africa* were consulted.

- Database surveys produced a number of sites located in the larger region of the proposed development.

4.2.1.3 Other sources

Aerial photographs and topocadastral and other maps were also studied - see the list of references below.

- Information of a very general nature were obtained from these sources

4.2.2 Field survey

The field survey was done according to generally accepted archaeological practices, and was aimed at locating all possible sites, objects and structures. The area that had to be investigated was identified by **EM Assistance** by means of maps. The *kml* file indicating the mining area, as supplied by EM Assistance, was loaded onto a Nexus 7 tablet. This was used, in Google Earth, during the field survey to access the areas.

The site was visited on 29 December 2015 and again on 22 January 2016. The area was investigated by accessing existing tracks – see Fig. 1 below.

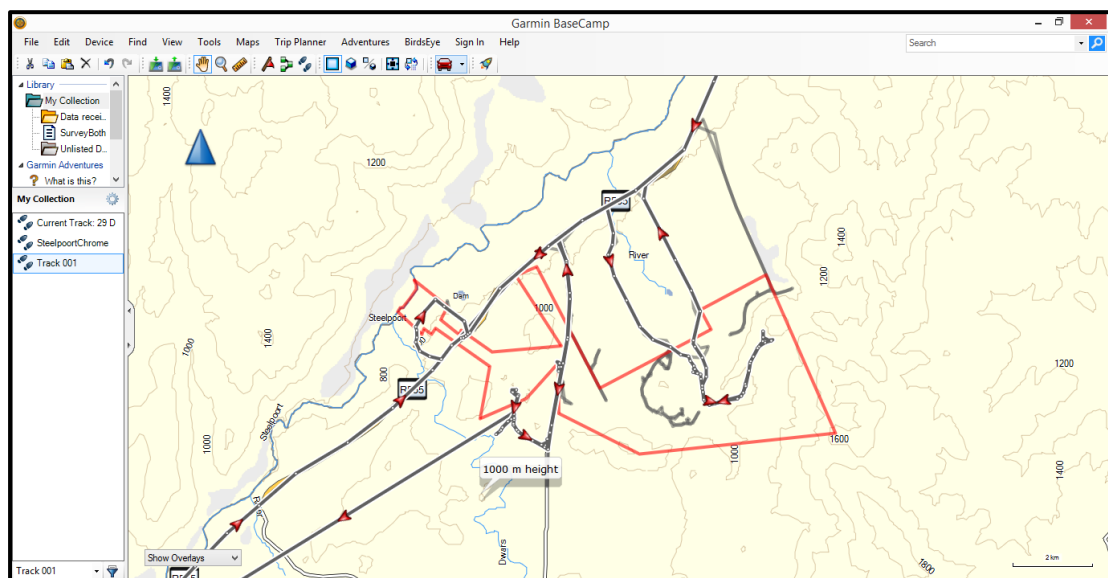


Fig. 1. Map indicating the track log of the field survey.

4.2.3 Documentation

All sites, objects and structures that are identified are documented according to the general minimum standards accepted by the archaeological profession. Coordinates of individual

localities are determined by means of the *Global Positioning System* (GPS) and plotted on a map. This information is added to the description in order to facilitate the identification of each locality.

The track log and identified sites were recorded by means of a Garmin Oregon 550 handheld GPS device. Photographic recording was done by means of a Canon EOS 550D digital camera.

Map datum used: Hartebeeshoek 94 (WGS84).

5. SITE SIGNIFICANCE AND ASSESSMENT

5.1 Heritage assessment criteria and grading

The National Heritage Resources Act, Act no. 25 of 1999, stipulates the assessment criteria and grading of heritage sites. The following grading categories are distinguished in Section 7 of the Act:

- **Grade I:** Heritage resources with qualities so exceptional that they are of special national significance;
- **Grade II:** Heritage resources which, although forming part of the national estate, can be considered to have special qualities which make them significant within the context of a province or a region; and
- **Grade III:** Other heritage resources worthy of conservation on a local authority level.

A matrix was developed whereby the criteria, as set out in Sections 3(3) and 7 of the NHRA, were applied for each identified site (see Appendix 1). This allowed some form of control over the application of similar values for similar sites.

The occurrence of sites with a Grade I significance will demand that the development activities be drastically altered in order to retain these sites in their original state. For Grade II and Grade III sites, the applicable of mitigation measures would allow the development activities to continue.

5.2 Methodology for the assessment of potential impacts

All impacts identified during the EIA stage of the study will be classified in terms of their significance. Issues were assessed in terms of the following criteria:

- The **nature**, a description of what causes the effect, what will be affected and how it will be affected;
- The physical **extent**, wherein it is indicated whether:
 - 1 - the impact will be limited to the site;
 - 2 - the impact will be limited to the local area;
 - 3 - the impact will be limited to the region;
 - 4 - the impact will be national; or
 - 5 - the impact will be international;
- The **duration**, wherein it is indicated whether the lifetime of the impact will be:
 - 1 - of a very short duration (0–1 years);
 - 2 - of a short duration (2–5 years);
 - 3 - medium-term (5–15 years);
 - 4 - long term (> 15 years); or
 - 5 - permanent;

- The **magnitude** of impact, quantified on a scale from 0-10, where a score is assigned:
 - 0 - small and will have no effect;
 - 2 - minor and will not result in an impact;
 - 4 - low and will cause a slight impact;
 - 6 - moderate and will result in processes continuing but in a modified way;
 - 8 – high, (processes are altered to the extent that they temporarily cease); or
 - 10 - very high and results in complete destruction of patterns and permanent cessation of processes;
- The **probability** of occurrence, which describes the likelihood of the impact actually occurring and is estimated on a scale where:
 - 1 - very improbable (probably will not happen);
 - 2 - improbable (some possibility, but low likelihood);
 - 3 - probable (distinct possibility);
 - 4 - highly probable (most likely); or
 - 5 - definite (impact will occur regardless of any prevention measures);
- The **significance**, which is determined through a synthesis of the characteristics described above (refer formula below) and can be assessed as low, medium or high;
- The **status**, which is described as either positive, negative or neutral;
- The degree to which the impact can be reversed;
- The degree to which the impact may cause irreplaceable loss of resources; and
- The degree to which the impact can be mitigated.

The **significance** is determined by combining the criteria in the following formula:

$$S = (E+D+M) \times P; \text{ where}$$

S = Significance weighting

E = Extent

D = Duration

M = Magnitude

P = Probability

The **significance weightings** for each potential impact are calculated as follows:

Table 1: Significance ranking

Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
-	-	-	-	-	-

Points	Significant Weighting	Discussion
< 30 points	Low	where this impact would not have a direct influence on the decision to develop in the area
31-60 points	Medium	where the impact could influence the decision to develop in the area unless it is effectively mitigated
> 60 points	High	where the impact must have an influence on the decision process to develop in the area

6. PROJECT DESCRIPTION

6.1 Site location

The study area is located in the Steelpoort River valley, approximately 25 km southwest of Burgersfort, 45 km northeast of Roossenekal and 40 km northwest of Lydenburg (Fig. 2). For more information, see the Technical Summary on p. iii above.

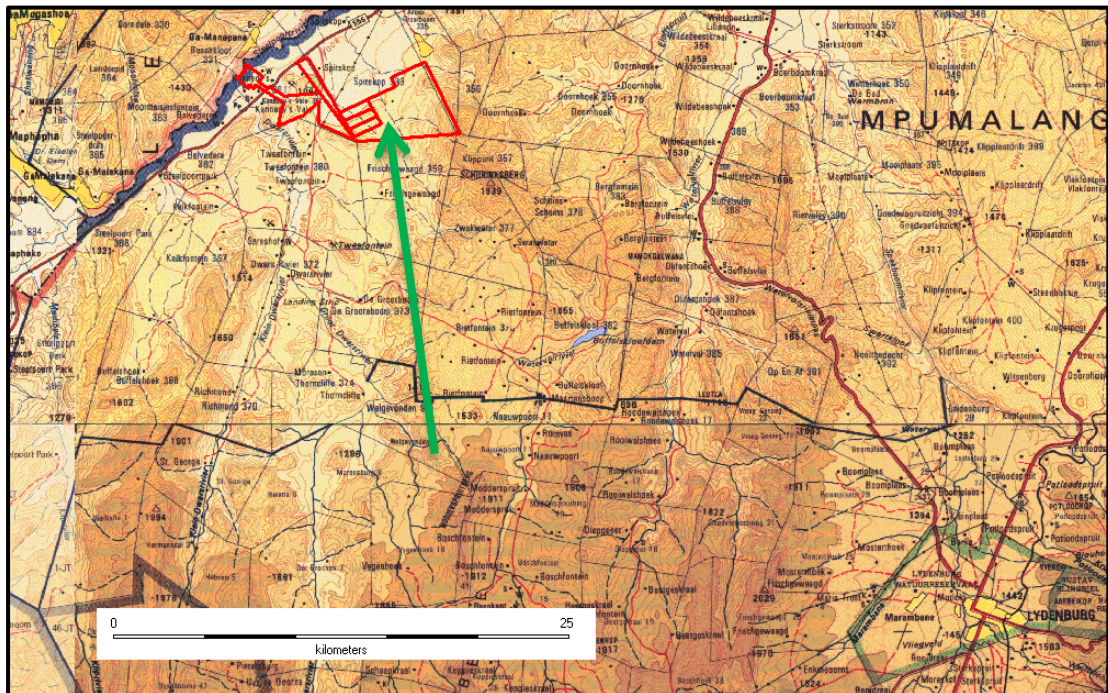


Fig. 2. Location of the study area (red outline) in regional context.
(Map 2528, 2530: Chief Surveyor-General)

6.2 Development proposal

The development involves Portions 8 and 22 of the farm Kennedy's Vale 361KT and Portions 24, 25, 26 and 28 of the farm Spitskop 333KT in the Greater Tubatse local municipality, Limpopo Province.

The application is to mine the mineral chromite and associated mineral on the properties mentioned above. The size of the area is approximately 2227.9771 Ha, while approximately 60 Ha is required for infrastructure, roads, servitudes, etc.

The operations will comprise of an open pit mine and stockpile area, including crushing and screening facilities if required.

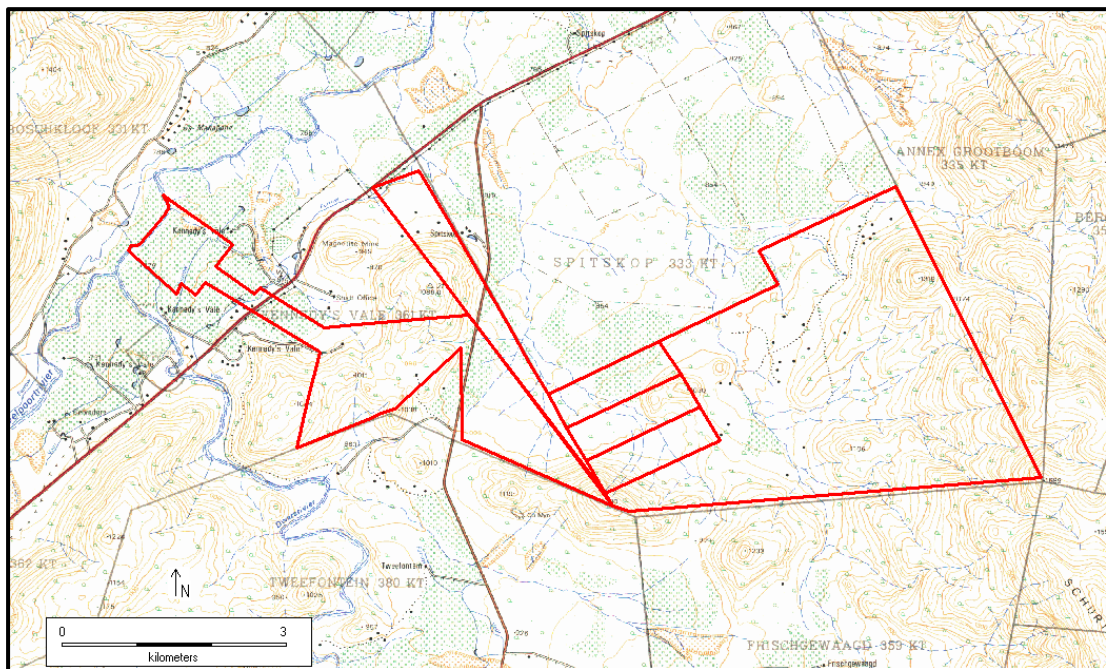


Fig. 3. Layout of the proposed mining area (red polygons).
(Map 2430DC: Chief Surveyor-General)

7. DESCRIPTION OF THE AFFECTED ENVIRONMENT

7.1 Site description

The geology of the region is made up of gabbro, changing to norite in the central section, before changing to quartzite in the east. The original vegetation is classified as Mixed Bushveld, changing to North-eastern Mountain Bushveld in the eastern section. The topography of the region is classified as low mountains. The Steelpoort River passes through the region, forming for a short section the western boundary of the mining area.

The past and current land use in the study area includes:

- The mountainous section which can be classified as “green fields” and are used for grazing of cattle by the local communities;
- Large sections of the flat areas were subjected to agricultural activities, by local communities as well as irrigation farming closer to the Steelpoort River;
- Different sections are subjected to past and current mining activities.

Except for the grazing activities, the other land use activities would have had an impact on previous heritage sites, features and objects that might have occurred in these areas. On the other hand, it also created new sites, features and objects that form part of the current heritage of the region.

During the site visits it was noted that a number of tracks were opened up for use during the prospecting activities, as well as areas where soil samples presumably were taken. In cases these tracks cut through some of the homestead areas or pits were dug in these areas, causing some damage to the sites.

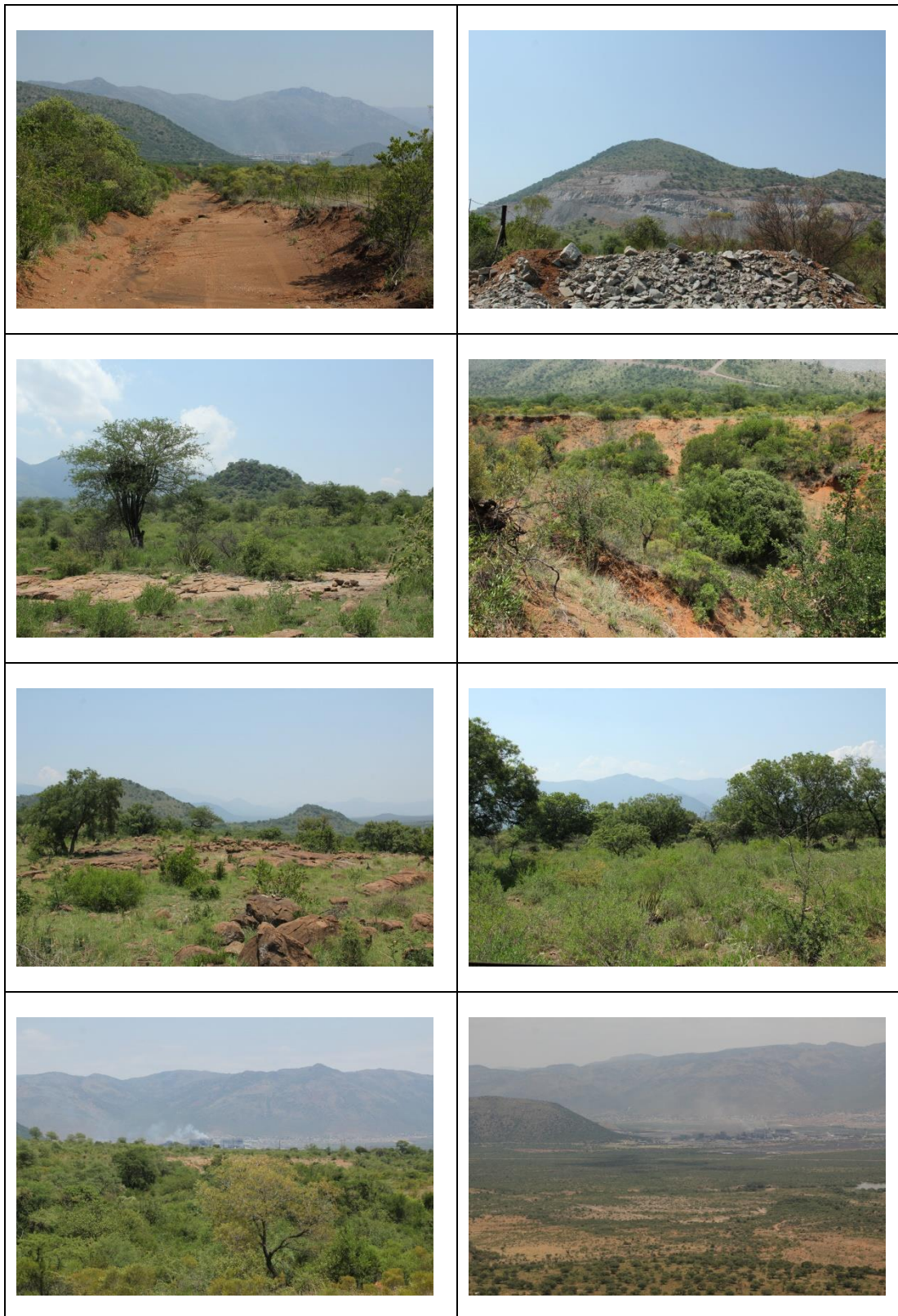


Fig. 4. Various views over the study area.

7.2 Overview of the region

The aim of this section is to present an overview of the history of the larger region in order to eventually determine the significance of heritage sites identified in the study area, within the context of their historic, aesthetic, scientific and social value, rarity and representivity – see Section 3.2 and Appendix 1 for more information.

The cultural landscape qualities of the region essentially consist of two components. The first is a rural area in which the human occupation is made up of a pre-colonial element (Stone Age and Iron Age) as well as a much later colonial (farmer) component. The latter eventually gave rise to an industrial (mining) component.

Geology

The complex geology of the larger region, changing from the Bushveld Igneous System to the Transvaal system in the north, gave rise to the rich mineral deposits that are currently being exploited all through the valley.

- Geological sites

NHRA Category	Geological sites
Protection status	
General Protection - Section 35: Archaeology, palaeontology and meteorites	

Heritage sites assessment		
Site type	Site significance	Site grading (Section 7 of NHRA)
Geological strata	High on a provincial level	II



Fig. 5. Dwarsrivier geological site.

Stone Age

Very little habitation of the highveld area took place during Stone Age times. Tools dating to the Early Stone Age period are mostly found in the vicinity of larger watercourses, e.g. the Steelpoort River and Olifants River. During Middle Stone Age (MSA) times (c. 150 000 – 30 000 BP), people became more mobile, occupying areas formerly avoided. The MSA is a technological stage characterized by flakes and flake-blades with faceted platforms, produced from prepared cores, as distinct from the core tool-based ESA technology. Open sites were

still preferred near watercourses. No Later Stone Age (LSA) sites are known to occur in the larger region.

Iron Age

Iron Age people started to settle in southern Africa c. AD 300, with one of the oldest known sites at Broederstroom south of Hartebeespoort Dam dating to AD 470. Having only had cereals (sorghum, millet) that need summer rainfall, Early Iron Age (EIA) people did not move outside this rainfall zone, and neither did they occupy the central interior highveld area. Sites dating to this period were recently excavated in the Steelpoort River valley (Van Schalkwyk 2009). Because of their specific technology and economy, Iron Age people preferred to settle on the alluvial soils near rivers for agricultural purposes, but also for firewood and water.

By the 16th century things changed, with the climate becoming warmer and wetter, creating condition that allowed Late Iron Age (LIA) farmers to occupy areas previously unsuitable, for example the treeless plains of the Free State and the Mpumalanga Highveld.

Archaeological sites identified in the region date to the Late Iron Age and it seems as if they can be divided into two distinct categories. The older of these are sites with quite high walls and are conventionally linked with the Koni-group of people that have been settled in the region since the 1600s. The second groups of sites also have stone walling but this is in most cases much less developed, in many cases making them difficult to detect. This latter group of sites probably date to a later period and can also be linked to settlement during early historic times of Ndebele- and Swazi-speakers in the region.

- Archaeological sites: Stone Age

NHRA Category	Archaeological and palaeontological sites
Protection status	
General Protection - Section 35: Archaeology, palaeontology and meteorites	

Heritage sites assessment		
Site type	Site significance	Site grading (Section 7 of NHRA)
Open sites; rock paintings	Paintings – high on a provincial level	II

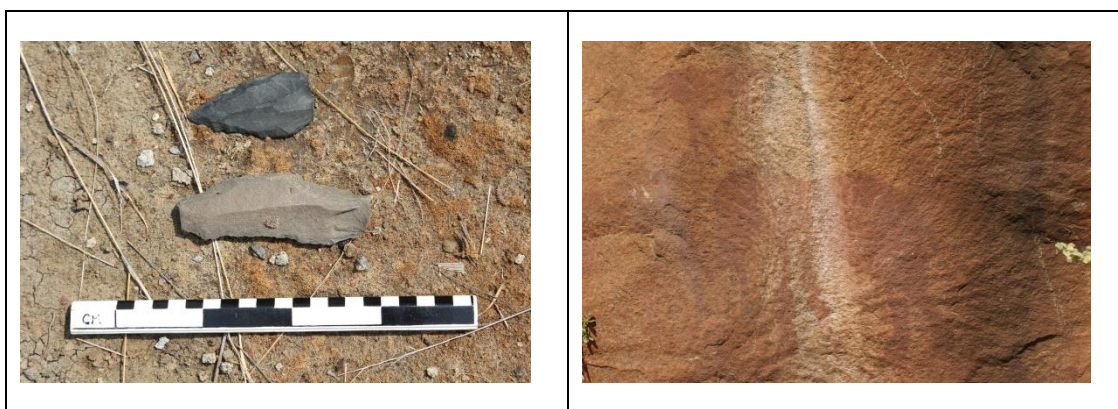


Fig. 6. Stone tools and San rock art.

- Archaeological sites: Iron Age

NHRA Category	Archaeological and palaeontological sites
Protection status	

General Protection - Section 35: Archaeology, palaeontology and meteorites

Heritage sites assessment

Site type	Site significance	Site grading (Section 7 of NHRA)
Stone walled sites	High on a regional level	III



Fig. 7. Iron Age pottery and stone walled site.

Historic period

White settlers moved into the area during the first half of the 19th century. They were largely self-sufficient, basing their survival on cattle/sheep farming and hunting. Few towns were established and it remained an undeveloped area until the discovered of coal and later gold. The establishment of the NZASM railway line in the 1880s, linking Pretoria with Lourenço Marques (Maputo) and the world at large, brought much infra-structural and administrative development to the area. This railway line also became the scene of many battles during the Anglo-Boer War, for example at Berg-en-Dal and Signal Hill more to the east.

The town of Belfast was established in 1890 and became a municipality in 1966. One of the oldest still operating coal mines in the area is Glisa Colliery which supplied coal to the old NZASM railway line.

- Farmsteads/homesteads

Farmsteads are complex features in the landscape, being made up of different yet interconnected elements. Typically these consist of a main house, gardens, outbuildings, sheds and barns, with some distance from that labourer housing and various cemeteries. In addition roads and tracks, stock pens and wind mills complete the setup. An impact on one element therefore impacts on the whole.

NHRA Category	Buildings, structures, places and equipment of cultural significance
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Protection status

General Protection - Section 34: Structures older than 60 years

Heritage sites assessment

Site type	Site significance	Site grading (Section 7 of NHRA)
Farmsteads/homesteads	Medium on a regional level	III



Fig. 8. A typical farm worker homestead in the region.

- Cemeteries

Apart from the formal cemeteries that occur in municipal areas (towns or villages), a number of these, some quite informal, i.e. without fencing, is expected to occur sporadically all over, but probably in the vicinity of the various farmsteads. Many might also have been forgotten, making it very difficult to trace the descendants in a case where the graves are to be relocated.

Most of these cemeteries, irrespective of the fact that they are for land owner or farm labourers (with a few exceptions where they were integrated), are family orientated. They are therefore serve as important 'documents' linking people directly by name to the land.

NHRA Category	Graves, cemeteries and burial grounds
Protection status	
General Protection - Section 36: Graves or burial grounds	

Heritage sites assessment		
Site type	Site significance	Site grading (Section 7 of NHRA)
Cemetery	High on a local level	III



Fig. 9. Informal burial places.

- Infrastructure

NHRA Category	Buildings, structures, places and equipment of cultural significance
Protection status	
General Protection - Section 34: Structures older than 60 years	

Heritage sites assessment		
Site type	Site significance	Site grading (Section 7 of NHRA)
Roads, bridges, water furrows, etc.	Medium on a regional level	III



Fig. 10. Infrastructural heritage.

7.3 Identified sites

Impact analysis of cultural heritage resources under threat are based on the present understanding of the proposed development. By applying the matrix presented in Section 5 above, the significance of the impact of the proposed development is calculated for each category of sites.

Appendix 5: A 5.1.1

Environmental Parameter	Pre-colonial: Stone Age sites
Issue/Impact/Environmental Effect/Nature	The impact will be the physical disturbance of the material and its context. Impact will be focused on a particular node, i.e. the mining site, boundary fence, access roads, borrow pits, laydown areas and construction camps.
Extent	Local
Duration	Permanent
Magnitude	Moderate
Probability	Probable
Significance Rating	Sites have a high significance on a region level – viewed as NHRA Grade III sites. Distinguish from find spots, which have low significance. Rock art sites are viewed to have high significance on a provincial level – viewed as NHRA Grade II sites.
Mitigation measures	All of these sites should be avoided as far as possible. Mitigation should take the form of isolating known sites and declare them as no-go zones with sufficient large buffer zones around them for protection – at least 10m. Sites that

	cannot be avoided should be excavated/documented in full by an archaeologist qualified in Stone Age archaeology.
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Appendix 5: A 5.2.1 (None)

Environmental Parameter	Pre-colonial: Iron Age sites
Issue/Impact/Environmental Effect/Nature	The impact will be the physical disturbance of the material and its context. Impact will be focused on a particular node, i.e. the mining area, boundary fence, roads, borrow pits, laydown areas and construction camps.
Extent	Local
Duration	Permanent
Magnitude	Moderate
Probability	Probable
Significance Rating	Sites have a medium significance on a region level – viewed as NHRA Grade III sites.
Mitigation measures	All of these sites should be avoided as far as possible. Mitigation should take the form of isolating known sites and declare them as no-go zones with sufficient large buffer zones around them for protection – at least 10m. Sites that cannot be avoided should be excavated in full by an archaeologist qualified in Iron Age archaeology.

Appendix 5: A 5.3.1 – 5.3.4

Environmental Parameter	Colonial Period: farmsteads/homesteads
Issue/Impact/Environmental Effect/Nature	The various features are subject to damage. Easier to identify and therefore easier to avoid. Variety of interconnected elements makes up the whole. Impact on part therefore implies an impact on the whole.
Extent	Local
Duration	Permanent
Magnitude	Moderate
Probability	Probable
Significance Rating	Sites have a medium significance on a region level – viewed as NHRA Grade III sites.
Mitigation measures	All of these sites should be avoided as far as possible. Mitigation should take the form of isolating known sites and declare them as no-go zones with sufficient large buffer zones around them for protection – at least 10m. In some cases mitigation can be implemented after required procedures have been followed.

Appendix 5: A 5.4.1 – 5.4.4

Environmental Parameter	Colonial Period: cemeteries
Issue/Impact/Environmental Effect/Nature	The various features are subject to damage. Not always easy to identify and therefore makes it difficult to avoid. Variety of interconnected elements makes up the whole. Impact on part therefore implies an impact on the whole.

Extent	Local
Duration	Permanent
Magnitude	Moderate
Probability	Probable
Significance Rating	Sites have a high significance on a local level – viewed as NHRA Grade III sites.
Mitigation measures	All of these sites should be avoided as far as possible. Mitigation should take the form of isolating known sites and declare them as no-go zones with sufficient large buffer zones around them for protection – a least 10m. In some cases mitigation can be implemented after required procedures have been followed.

Appendix 5: A 5.5.1

Environmental Parameter	Colonial Period: industrial heritage
Issue/Impact/Environmental Effect/Nature	Different features are subject to damage. Some might be unique – no alternatives or second examples. Usually easy to identify and therefore easy to avoid.
Extent	Local
Duration	Permanent
Magnitude	Moderate
Probability	Improbable
Significance Rating	Sites have a medium significance on a region level – viewed as NHRA Grade III sites.
Mitigation measures	All of these sites should be avoided as far as possible. Mitigation should take the form of isolating known sites and declare them as no-go zones with sufficient large buffer zones around them for protection – at least 10m. In some cases mitigation can be implemented after required procedures have been followed, but only as last case scenario.

Appendix 5: A 5.6.1 (None)

Environmental Parameter	Colonial Period: public monuments and battle fields
Issue/Impact/Environmental Effect/Nature	The various features are subject to damage. Usually identified by a monument, but total extent of a battlefield is not always easy to demarcate. Variety of interconnected elements makes up the whole. Impact on part therefore implies an impact on the whole.
Extent	Local
Duration	Permanent
Magnitude	Moderate
Probability	Improbable
Significance Rating	Sites have a high significance on a provincial level – some viewed as NHRA Grade II sites.
Mitigation measures	All of these sites should be avoided as far as possible. Mitigation should take the form of isolating known sites and declare them as no-go zones with sufficient large buffer zones around them for protection – at least 10m.

The following sites, features and objects of cultural significance were identified in the study area – see Appendix 5 for a discussion of each individual site.

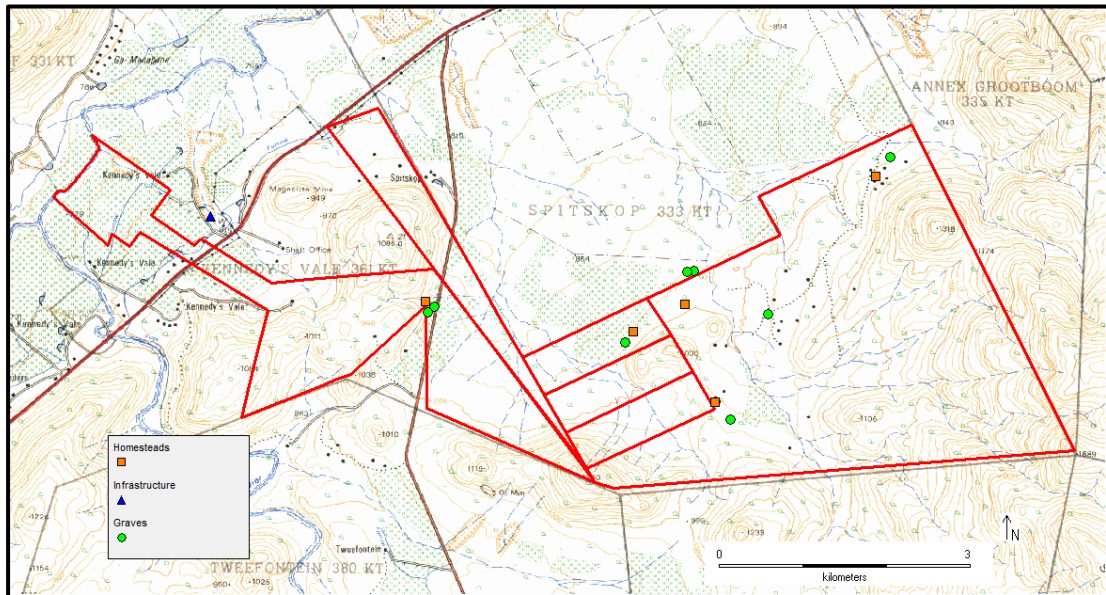


Fig. 11. Map indicating the distribution of identified heritage sites and features.

Table 2. Summary of identified heritage resources in the study area.

Identified heritage resources		
Category according to NHRA	Number	Coordinates
Formal protections (NHRA)		
National heritage site (Section 27)	None	
Provincial heritage site (Section 27)	None	
Provisional protection (Section 29)	None	
Place listed in heritage register (Section 30)	None	
General protections (NHRA)		
Structures older than 60 years (Section 34)	A 5.5.1	S 24.82987, E 30.09760
Archaeological site or material (Section 35)	A 5.1.1	S 24.84081, E 30.15580
	A 5.3.1	S 24.82559, E 30.17037
	A 5.3.2	S 24.83947, E 30.14954
	A 5.3.3	S 24.84250, E 30.14381
	A 5.3.4	S 24.85014, E 30.15275
	A 5.3.5	S 24.83922, E 30.12111
Palaeontological site or material (Section 35)		
Graves or burial grounds (Section 36)	A 5.4.1	S 24.82342, E 30.17188
	A 5.4.2	S 24.83580, E 30.15038
	A 5.4.3	S 24.83588, E 30.14966
	A 5.4.4	S 24.84357, E 30.14294
	A 5.4.5	S 24.85202, E 30.15446
	A 5.4.6	S 24.85013, E 30.15276
	A 5.4.7	S 24.84054, E 30.15853
	A 5.4.8	S 24.83977, E 30.12206
	A 5.4.9	S 24.84034, E 30.12133
Public monuments or memorials (Section 37)	None	

Other		
Any other heritage resources (describe)	None	

- Stone tools were found to occur as low density surface scatter in erosion gullies (A 5.1.1).
 - These sites are viewed to have low significance on a regional level
 - As the density of artefact scatters is very low, no further action is required.
- A total of five old homestead sites were identified in the proposed mining area and it is anticipated that it would be impacted on by the mining activities (A 5.3.1 – A 5.3.5).
 - These features are viewed to have medium significance on a regional level.
 - It is recommended that the sites are retained, and that it should be fenced off with danger tape for the duration of the mining, leaving a buffer zone of at least ten metres from the outer edge of the stone walling/physical features. If the sites cannot be retained, it should be documented (mapped and excavated) by an archaeologists after obtaining a permit from SAHRA.
 - If mining takes place in these areas, the community should be consulted to determine if there are any more graves in the region, especially those of young children who, in many cases, are buried inside the old homestead.
- A total of nine informal burial sites were identified. All are located inside of or in close proximity to the mining area and it is anticipated that it would be impacted on by the mining activities (A 5.4.1 – A 5.4.9).
 - These features are viewed to have high significance on a local level.
 - If the burial places are retained, it should be fenced off with danger tape for the duration of the mining, leaving a buffer zone of at least ten metres from the outer edge of the graves. If the graves cannot be retained, it should be relocated, but only on condition of following the correct procedures (see Appendix 3).
- A single site defined as of industrial/infrastructural heritage was identified (A 5.5.1).
 - This feature is viewed to have low significance on a regional level.
 - It is recommended that the irrigation system should be documented (photographed and mapped) in before mining activities takes place.

8. RECOMMENDATIONS

The aim of this study was to determine if any sites, features or objects of cultural heritage significance occur within the boundaries of the area where the mining activities is to take place. Based on available information and the site visit the following can be said:

- Stone tool were found to occur as low density surface scatter in erosion gullies. As the density of artefacts is very low, no further action is required.
- A total of five old homestead sites were identified in the proposed mining area and it is anticipated that it would be impacted on by the mining activities.

A total of nine informal burial places were identified. All are located inside of or in close proximity to the mining area and it is anticipated that it would be impacted on by the mining activities.

- A single site defined as of industrial/infrastructural heritage was identified.

Reasoned opinion as to whether the proposed activity should be authorised:

- From a heritage point of view it is recommended that the proposed development be allowed to continue, on condition of acceptance of the mitigation measures presented below.

Conditions for inclusion in the environmental authorisation:

- It is recommended that the homestead sites are retained, and that it should be fenced off for the duration of the mining, leaving a buffer zone of at least ten metres from the outer edge of the stone walling/physical features. If the sites cannot be retained, it should be documented (mapped and excavated) by an archaeologists after obtaining a permit from SAHRA.
 - If mining takes place in these areas, the community should be consulted to determine if there are any more graves in the region, especially those of young children who, in many cases, are buried inside the old homestead.
- It is recommended that the burial sites are retained and it should be fenced off for the duration of the mining activities, leaving a buffer zone of at least five metres from the outer edge of the graves. If the graves cannot be retained, it should be relocated, but only on condition of following the correct procedures.
- It is recommended that the industrial/infrastructural heritage feature (irrigation system) should be documented (photographed and mapped) in before mining activities takes place.
- Should archaeological sites or graves be exposed during construction work, it must immediately be reported to a heritage practitioner so that an investigation and evaluation of the finds can be made. According to local inhabitant, Mr Silas Mosethla, old informal burial sites might still be located in some places, but it would be difficult to trace due to “lack of memory” and the current dense vegetation.

9. REFERENCES

9.1 Data bases

Chief Surveyor General
Environmental Potential Atlas, Department of Environmental Affairs and Tourism.
Heritage Atlas Database, Pretoria.
National Archives of South Africa
SAHRA Archaeology and Palaeontology Report Mapping Project (2009)

9.2 Literature

Acocks, J.P.H. 1975. *Veld Types of South Africa*. Memoirs of the Botanical Survey of South Africa, No. 40. Pretoria: Botanical Research Institute.

Cloete, P.G. 2000. *The Anglo-Boer War: a Chronology*. Pretoria: JP van der Walt

Coetzee, F.P. 2007. *Cultural Heritage Impact Assessment of the Proposed Chrome Mine on Portions 4 & 5 of the Farm Spitskop 333 KT, Steelpoort, Mpumalanga Province*. An unpublished report by the Archaeology Contracts Unit (UNISA).

Collett, D.P. 1982. Excavation of stone-walled ruin types in the Badfontein Valley, Eastern Transvaal, South Africa. *South African Archaeological Bulletin* 37:34-43.

Delius, P. & Schoeman, M.H. 2008. Revisiting Bokoni: populating the stone ruins of the Mpumalanga Escarpment. In Swanepoel, N., Esterhuysen, A. & Bonner, P. 2008. *Five Hundred Years Rediscovered – Southern African Precedents and Prospects*. Johannesburg: Witwatersrand University Press.

Grove, G. 1999. *Mapochseland en sy mense*. Pretoria: Binedell Uitgewers.

Holm, S.E. 1966. *Bibliography of South African Pre- and Protohistoric archaeology*. Pretoria: J.L. van Schaik.

Huffman, T.N. 2004/2005. Archaeological mitigation for Project Lion. *Southern African Field Archaeology* 13 & 14: 42-48.

Joubert, H. n.d.a *Die Mapoch-oorlog 1882-1883*. Ongepubliseerde manuskrip. Roosenekal Biblioteek.

Joubert, H. n.d.b *Die Tonteldoos register: feite en fabels uit die outyd*. Ongepubliseerde manuskrip. Roosenekal Biblioteek.

Küsel, U. & Dreyer, C. 2003. *Archaeological and Cultural Assessment of the New Residential Development at the Farm Spitskop 333 KT, Steelpoort*. An unpublished report by African Heritage Consultants CC.

Mason, R.J. 1962. *Prehistory of the Transvaal*. Johannesburg: Witwatersrand University Press.

Nel, J. 2008. *Heritage Resources Scoping Survey & Preliminary Assessment: Proposed Establishment of Township on Portion 28 of the Farm Kennedy's Vale 362 KT, Steelpoort, Limpopo Province*. An unpublished report by Archaic Heritage Project Management.

Praagh, L.V. (ed.) 1906. *The Transvaal and its mines*. London: Praagh & Lloyd.

Van Schalkwyk, J.A. 2003. *Eskom transmission line - Duvha (Witbank) to Janus (Mecklenburg), scoping report for heritage management: cultural heritage scoping report*. Unpublished report 2003KH001. Pretoria: National Cultural History Museum.

Van Schalkwyk, J.A. 2005. *Heritage impact scoping report for the proposed Richmond Dam, Lydenburg District, Mpumalanga*. Unpublished report 2005KH88. Pretoria: National Cultural History Museum.

Van Schalkwyk, J.A. 2007. *Heritage survey of a part of the farm Mapochsgronde 544JS, Roosenekal, Middelburg municipal district, Mpumalanga Province*. Unpublished report 2007/JvS/014. Pretoria.

Van Schalkwyk, J.A. 2009. *Report on the mitigation of heritage sites in the De Hoop Dam, Steelpoort River, Limpopo Province*. Unpublished report. Pretoria.

Van Schalkwyk, J.A. 2011. *Proposed development of the High Altitude Sports Centre, Belfast, Mpumalanga Province*. Unpublished report 2011/JvS/086. Pretoria.

Van Schalkwyk, J.A. 2014/2015. Living and working in the valley: Farm labourer homesteads in the Steelpoort River valley. *Research by Ditsong: National Museum of Cultural History* 9:1-22.

Van Schalkwyk, J.A. (in preparation). *Following the River: Heritage documentation in the Steelpoort River Valley*. Department of Water and Sanitation.

9.3 Maps and aerial photographs

1: 50 000 Topocadastral maps: 2430CC
Google Earth

APPENDIX 1: CONVENTIONS USED TO ASSESS THE IMPACT OF PROJECTS ON HERITAGE RESOURCES

Significance

According to the NHRA, Section 2(vi) the **significance** of a heritage sites and artefacts is determined by it aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technical value in relation to the uniqueness, condition of preservation and research potential. 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.

Matrix used for assessing the significance of each identified site/feature

1. 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 organisation of importance in history			
Does it have significance relating to the history of slavery			
2. Aesthetic value			
It is important in exhibiting particular aesthetic characteristics valued by a community or cultural group			
3. 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			
4. Social value			
Does it have strong or special association with a particular community or cultural group for social, cultural or spiritual reasons			
5. Rarity			
Does it possess uncommon, rare or endangered aspects of natural or cultural heritage			
6. Representivity			
Is it important in demonstrating the principal characteristics of a particular class of natural or cultural places or objects			
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			
Importance 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. Sphere of Significance		High	Medium
International			
National			
Provincial			
Regional			
Local			
Specific community			
8. Significance rating of feature			
1.	Low		
2.	Medium		
3.	High		

Significance of impact:

- low where the impact will not have an influence on or require to be significantly accommodated in the project design
- medium where the impact could have an influence which will require modification of the project design or alternative mitigation
- high where it would have a “no-go” implication on the project regardless of any mitigation

APPENDIX 2. RELEVANT LEGISLATION

All archaeological and palaeontological sites, and meteorites are protected by the National Heritage Resources Act (Act no 25 of 1999) as stated in Section 35:

(1) Subject to the provisions of section 8, the protection of archaeological and palaeontological sites and material and meteorites is the responsibility of a provincial heritage resources authority: Provided that the protection of any wreck in the territorial waters and the maritime cultural zone shall be the responsibility of SAHRA.

(2) Subject to the provisions of subsection (8)(a), all archaeological objects, palaeontological material and meteorites are the property of the State. The responsible heritage authority must, on behalf of the State, at its discretion ensure that such objects are lodged with a museum or other public institution that has a collection policy acceptable to the heritage resources authority and may in so doing establish such terms and conditions as it sees fit for the conservation of such objects.

(3) Any person who discovers archaeological or palaeontological objects or material or a meteorite in the course of development or agricultural activity must immediately report the find to the responsible heritage resources authority, or to the nearest local authority offices or museum, which must immediately notify such heritage resources authority.

(4) No person may, without a permit issued by the responsible heritage resources authority-

- (a) destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;
- (b) destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;
- (c) trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or
- (d) bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment which assist in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.

In terms of cemeteries and graves the following (Section 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) 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.

The National Heritage Resources Act (Act no 25 of 1999) stipulates the assessment criteria and grading of archaeological sites. The following categories are distinguished in Section 7 of the Act:

- **Grade I:** Heritage resources with qualities so exceptional that they are of special national significance;
- **Grade II:** Heritage resources which, although forming part of the national estate, can be considered to have special qualities which make them significant within the context of a province or a region; and
- **Grade III:** Other heritage resources worthy of conservation, and which prescribes heritage resources assessment criteria, consistent with the criteria set out in section 3(3), which must be used by a heritage resources authority or a local authority to assess the intrinsic, comparative and contextual significance of a heritage resource and the relative benefits and costs of its protection, so that the appropriate level of grading of the resource and the consequent responsibility for its management may be allocated in terms of section 8.

Presenting archaeological sites as part of tourism attraction requires, in terms 44 of the Act, a Conservation Management Plan as well as a permit from SAHRA.

(1) Heritage resources authorities and local authorities must, wherever appropriate, co-ordinate and promote the presentation and use of places of cultural significance and heritage resources which form part of the national estate and for which they are responsible in terms of section 5 for public enjoyment, education, research and tourism, including-

- (a) the erection of explanatory plaques and interpretive facilities, including interpretive centres and visitor facilities;
- (b) the training and provision of guides;
- (c) the mounting of exhibitions;
- (d) the erection of memorials; and
- (e) any other means necessary for the effective presentation of the national estate.

(2) Where a heritage resource which is formally protected in terms of Part I of this Chapter is to be presented, the person wishing to undertake such presentation must, at least 60 days prior to the institution of interpretive measures or manufacture of associated material, consult with the heritage resources authority which is responsible for the protection of such heritage resource regarding the contents of interpretive material or programmes.

(3) A person may only erect a plaque or other permanent display or structure associated with such presentation in the vicinity of a place protected in terms of this Act in consultation with the heritage resources authority responsible for the protection of the place.

APPENDIX 3. RELOCATION OF GRAVES

If the graves are younger than 60 years, an undertaker can be contracted to deal with the exhumation and reburial. This will include public participation, organising cemeteries, coffins, etc. They need permits and have their own requirements that must be adhered to.

If the graves are older than 60 years old or of undetermined age, an archaeologist must be in attendance to assist with the exhumation and documentation of the graves. This is a requirement by law.

Once it has been decided to relocate particular graves, the following steps should be taken:

- Notices of the intention to relocate the graves need to be put up at the burial site for a period of 60 days. This should contain information where communities and family members can contact the developer/archaeologist/public-relations officer/undertaker. All information pertaining to the identification of the graves needs to be documented for the application of a SAHRA permit. The notices need to be in at least 3 languages, English, and two other languages. This is a requirement by law.
- Notices of the intention needs to be placed in at least two local newspapers and have the same information as the above point. This is a requirement by law.
- Local radio stations can also be used to try contact family members. This is not required by law, but is helpful in trying to contact family members.
- During this time (60 days) a suitable cemetery need to be identified close to the development area or otherwise one specified by the family of the deceased.
- An open day for family members should be arranged after the period of 60 days so that they can gather to discuss the way forward, and to sort out any problems. The developer needs to take the families requirements into account. This is a requirement by law.
- Once the 60 days has passed and all the information from the family members have been received, a permit can be requested from SAHRA. This is a requirement by law.
- Once the permit has been received, the graves may be exhumed and relocated.
- All headstones must be relocated with the graves as well as any items found in the grave.

Information needed for the SAHRA permit application

- The permit application needs to be done by an archaeologist.
- A map of the area where the graves have been located.
- A survey report of the area prepared by an archaeologist.
- All the information on the families that have identified graves.
- If graves have not been identified and there are no headstones to indicate the grave, these are then unknown graves and should be handled as if they are older than 60 years. This information also needs to be given to SAHRA.
- A letter from the landowner giving permission to the developer to exhume and relocate the graves.
- A letter from the new cemetery confirming that the graves will be reburied there.
- Details of the farm name and number, magisterial district and GPS coordinates of the gravesite.

APPENDIX 4. SPECIALIST COMPETENCYJohan (Johnny) van Schalkwyk

J A van Schalkwyk, D Litt et Phil, heritage consultant, has been working in the field of heritage management for more than 30 years. Based at the National Museum of Cultural History, Pretoria, he has actively done research in the fields of anthropology, archaeology, museology, tourism and impact assessment. This work was done in Limpopo Province, Gauteng, Mpumalanga, North West Province, Eastern Cape, Northern Cape, Botswana, Zimbabwe, Malawi, Lesotho and Swaziland. Based on this work, he has curated various exhibitions at different museums and has published more than 60 papers, many in scientifically accredited journals. During this period he has done more than 2000 impact assessments (archaeological, anthropological, historical and social) for various government departments and developers. Projects include environmental management frameworks, road-, pipeline-, and power line developments, dams, mining, water purification works, historical landscapes, refuse dumps and urban developments.

APPENDIX 5: INVENTORY OF IDENTIFIED CULTURAL HERITAGE SITES**A 5.1 Stone Age**

NHRA Category	Archaeological and palaeontological sites – Stone Age
Protection status	
General Protection - Section 35: Archaeology, palaeontology and meteorites	

Very little research has been done on the archaeology of the larger region and only a few published papers and studies are available. In contrast, cave sites have been subjected to intensive investigation, which contributed much to our understanding of human occupation of the region during the past few millennia.

The larger countryside contains probably thousands of find spots dating from the Middle and Later Stone Age. As yet, no stratified sites (i.e. occurring in rock shelters and caves) and sites with rock art dating to the Later Stone Age and early historic period are known from the immediate vicinity.

Location	No. A 5.1.1	Spitskop 333KT	S 24.84081, E 30.15580
Description			
An area where Middle Stone Age material is eroding out. It consists mostly of flakes, with a few formal tools, all of hardened shale or quartzite. The density is approximately one tool/flake per 50m ² . This is very low density in contrast to similar situation in regions that are closer to the river.			

Significance of site/feature	Low on a regional level – Grade III
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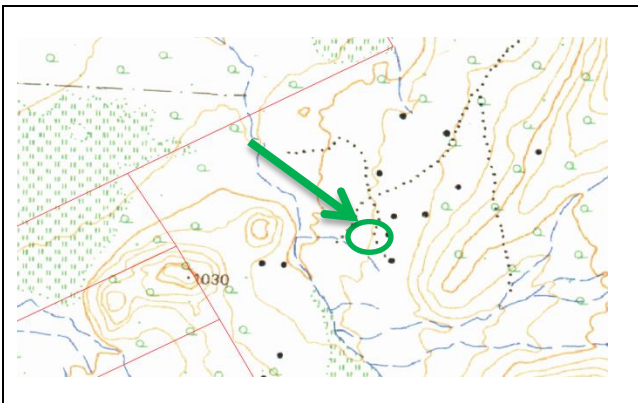
Impact assessment
At present is it impossible to determine if this site and other similar ones will be impacted on by the mining activities.

Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
1	5	4	3	30	Low

Mitigation
As the density of artefacts is very low, no further action is required.

Requirements
None

References
1: 50 000 topocadastral map: 2430CC



A 5.2 Iron Age

NHRA Category	Archaeological and palaeontological sites – Iron Age
Protection status	
General Protection - Section 35: Archaeology, palaeontology and meteorites	

Very little research has been done on the archaeology of the larger region and only a few published papers and studies are available.

The larger countryside contains sites dating mostly from the Later Iron Age, most of which can be linked to the occupation of the region by Sotho/Tswana-speakers during the last 500 years.

Nil

A 5.3 Farmsteads and homesteads

NHRA Category	Buildings, structures, places and equipment of cultural significance
Protection status	
General Protection - Section 34: Structures older than 60 years	

Farmsteads/homesteads are complex features in the landscape, being made up of different yet interconnected elements. Typically these consist of a main house, gardens, outbuildings, sheds and barns, with some distance from that labourer housing and various cemeteries. In addition roads and tracks, stock pens and wind mills complete the setup. An impact on one element therefore impacts on the whole.

The architecture of these farmsteads can be described as an eclectic mix of styles modified to adapt to local circumstances. Farm buildings were generally single storied. Walls were thick and built in stone. The roof was either flat or ridged and thatched or tiled and was terminated at either end by simple linear parapet gables.

In some cases outbuildings would be in the same style as the main house, if they date to the same period. However, they tend to vary considerably in style and materials used as they were erected later as and when they were required.

Location	A 5.3.1	Spitskop 333KT	S 24.82559, E 30.17037
Description			
Area where some houses occurred in the past – it covers an area of approximately 150 x 150m. Unfortunately, due to the dense vegetation it was very difficult to determine the exact extent of the area, as well as photographing the remains. There are some graves in the vicinity that might be linked to these homesteads (see Site A 5.4.1). This area was abandoned when the more formal, current village was laid out – according to Mr. S Mosethla, local resident.			

Significance of site/feature	Medium on a regional level – Grade III
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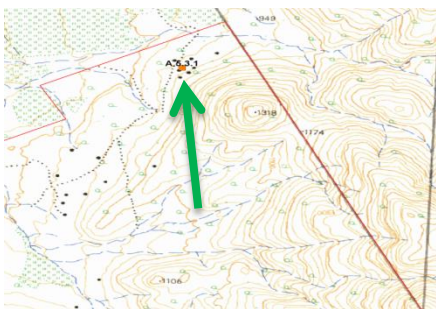
Impact assessment
At present is it impossible to determine if this site will be impacted on by the mining activities.

Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
1	5	6	3	36	Medium

Mitigation
If mining takes place in this area, the community should be consulted to determine if there are any more graves in the region, especially those of young children who, in many cases, are buried inside the old homestead.

Requirements
None

References
1: 50 000 topocadastral map 2430CC



Location	A 5.3.2	Spitskop 333KT	S 24.83947, E 30.14954
Description			
An area of approximately 300m in length where homesteads used to occur. The area is signified by stone walls and terracing. Old communal grinding stones (<i>dinala</i>) occur on some of the larger outcrops. This area was probably abandoned when the more formal, current village was laid out.			

Significance of site/feature	Medium on a regional level – Grade III
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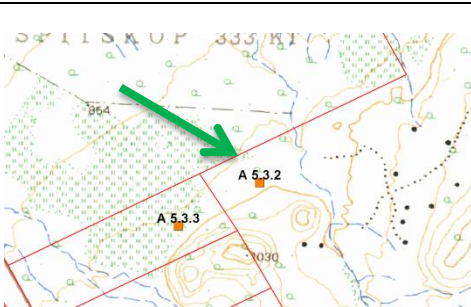
Impact assessment
At present is it impossible to determine if this site will be impacted on by the mining activities.

Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
1	5	6	3	36	Medium

Mitigation
These walls and other associated features should be documented (mapped and photographed) if mining takes place here.

Requirements
SAHRA permit

References
1: 50 000 topocadastral map 2430CC



Location	A 5.3.3	Spitskop 333KT	S 24.84250, E 30.14381
Description			
A number of houses, cattle kraals and other features occurred here over a distance of approximately 310m following the foot of the hill. This area was probably abandoned when the more formal, current village was laid out. A possible grave were identified to exist in the village (see Site A 5.4.4 below).			

Significance of site/feature	Medium on a regional level – Grade III
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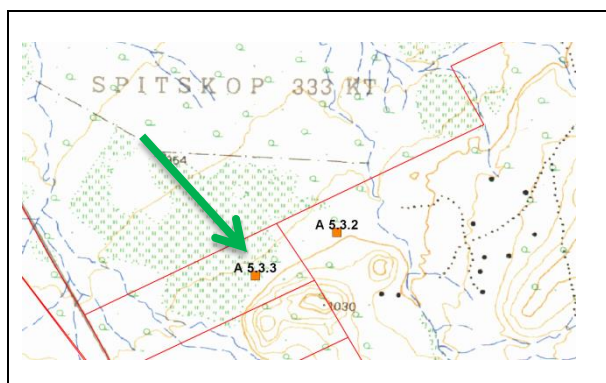
Impact assessment
At present is it impossible to determine if this site will be impacted on by the mining activities.

Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
1	5	6	3	36	Medium

Mitigation
This site should be documented (mapped and photographed) if mining is to take place here. If mining takes place in this area, the community should be consulted to determine if there are any more graves in the region, especially those of young children who, in many cases, are buried inside the old homestead.

Requirements
SAHRA permit

References
1: 50 000 topocadastral map 2430CC



Location	A 5.3.4	Spitskop 333KT	S 24.85014, E 30.15275
Description			
What seems to be the remains of at least three different homesteads, occurring over an area of approximately 150m. It is signified by stone outer walling, house structures (remains), stock pens, etc.			

Significance of site/feature	Medium on a regional level – Grade III
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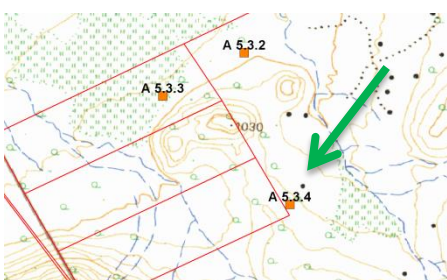
Impact assessment
At present is it impossible to determine if this site will be impacted on by the mining activities.

Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
1	5	6	3	36	Medium

Mitigation
Of all the identified sites dating to the recent historic times, this is one very well preserved and represents a settlement type that does not occur any more very frequently in the larger region. It is therefore recommended that it is documented (mapped and photographed) and archaeologically excavated.

Requirements
SAHRA permit

References
1: 50 000 topocadastral map 2430CC



Location	A 5.3.5	Spitskop 333KT	S 24.83922, E 30.12111
Description			
Remains of a clay house structure and some stone outer walling. Very little remains of this site as an old road were made through it. It is probably linked to the graves in Site A 5.4.8 and A 5.4.9			

Significance of site/feature	Medium on a regional level – Grade III
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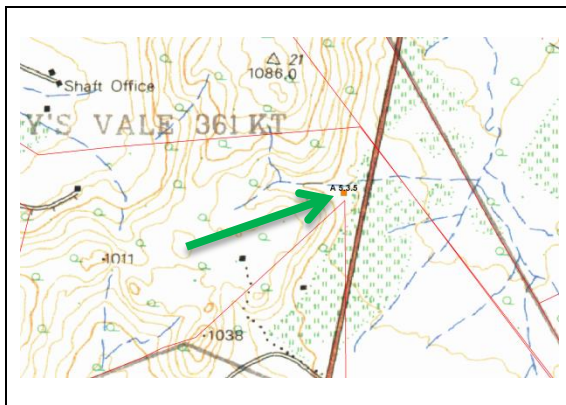
Impact assessment
At present is it impossible to determine if this site will be impacted on by the mining activities.

Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
1	5	6	3	36	Medium

Mitigation
It is seen as fully documented after inclusion of this report. No further action is required.

Requirements
SAHRA permit

References
1: 50 000 topocadastral map 2430CC



A 5.4 Graves and burial places

NHRA Category	Graves, cemeteries and burial grounds
Protection status	
General Protection - Section 36: Graves or burial grounds	

Apart from the formal cemeteries that occur in municipal areas (towns or villages), some quite informal, i.e. without fencing, can be expected to occur almost anywhere. Most of these cemeteries/burial places, irrespective of the fact that they are for land owner or farm labourers (with a few exceptions where they were integrated), are family orientated. They therefore serve as important 'documents' linking people directly by name to the land.

Location	A 5.4.1	Spitskop 333KT	S 24.82342, E 30.17188
Description			
Informal burial place with approximately 10 graves. At present it is fenced off and has a gate for access. Not all have headstones with names. Although the headstones are quite new, the death dates all cluster in the 1950s.			

Significance of site/feature	High on a local level – Grade III
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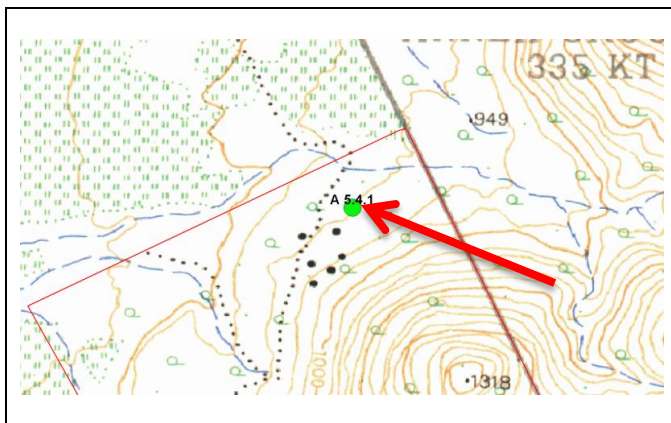
Impact assessment
At present it is impossible to determine if these graves will be impacted on by the mining activities

Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
1	5	6	4	48	Medium

Mitigation
It is recommended that the burial place is left in place and that the area is fenced off when mining activities take place in the region. If that is not possible, the graves can be relocated after the correct procedures have been followed – see Appendix 3.

Requirements
A valid permit for the relocation of the graves must be obtained from SAHRA.

References
1: 50 000 topocadastral map 2430CC



Location	A 5.4.2	Spitskop 333KT	S 24.83580, E 30.15038
Description			
What seems to be a very large, newly demarcated cemetery. It is fenced off and the gate is locked. It seems to contain a single grave.			

Significance of site/feature	High on a local level – Grade III
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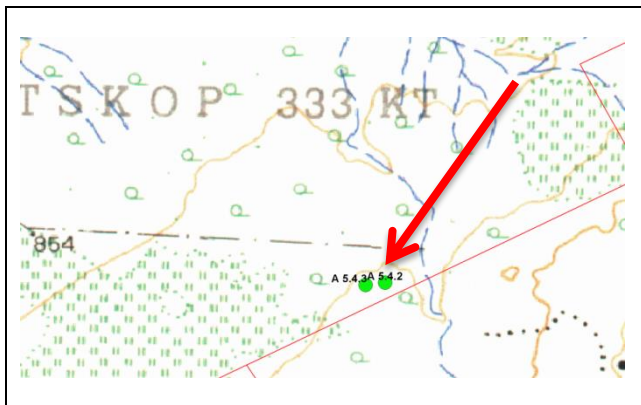
Impact assessment
At present is it impossible to determine if these graves will be impacted on by the mining activities

Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
1	5	6	4	48	Medium

Mitigation
It is recommended that the burial place is left in place and that the area is fenced off when mining activities takes place in the region.

Requirements
A valid permit for the relocation of the graves must be obtained from SAHRA.

References
1: 50 000 topocadastral map 2430CC



Location	A 5.4.3	Spitskop 333KT	S 24.83588, E 30.14966
Description			
An informal burial place containing three graves marked only with stone cairns.			

Significance of site/feature	High on a local level – Grade III
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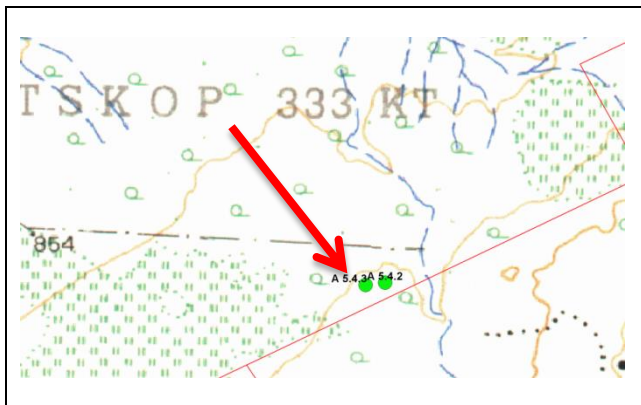
Impact assessment
At present is it impossible to determine if these graves will be impacted on by the mining activities.

Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
1	5	6	4	48	Medium

Mitigation
It is recommended that the burial place is left in place and that the area is fenced off when mining activities takes place in the region. If that is not possible, the graves can be relocated after the correct procedures have been followed – see Appendix 3.

Requirements
A valid permit for the relocation of the graves must be obtained from SAHRA.

References
1: 50 000 topocadastral map 2430CC



Location	A 5.4.4	Spitskop 333KT	S 24.84357, E 30.14294
Description			
What might be a single grave, marked with a stone cairn. It is located in old village (see site A 5.3.3 above)			

Significance of site/feature	High on a local level – Grade III
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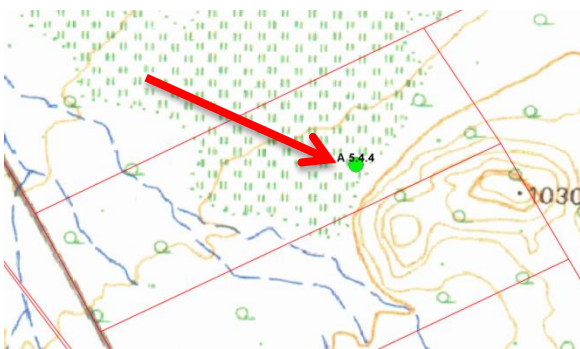
Impact assessment
At present is it impossible to determine if this grave will be impacted on by the mining activities.

Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
1	5	6	4	48	Medium

Mitigation
It is recommended that the burial place is left in place and that the area is fenced off when mining activities takes place in the region. If that is not possible, the graves can be relocated after the correct procedures have been followed – see Appendix 3.

Requirements
A valid permit for the relocation of the graves must be obtained from SAHRA.

References
1: 50 000 topocadastral map 2430CC



Location	A 5.4.5	Spitskop 333KT	S 24.85202, E 30.15446
Description			
Informal burial place with approximately 5 graves. At present it is fenced off and has a gate for access. Not all have headstones with names. Although the headstones are quite new, the death dates cluster between the 1950 and 1970s.			

Significance of site/feature	High on a local level – Grade III
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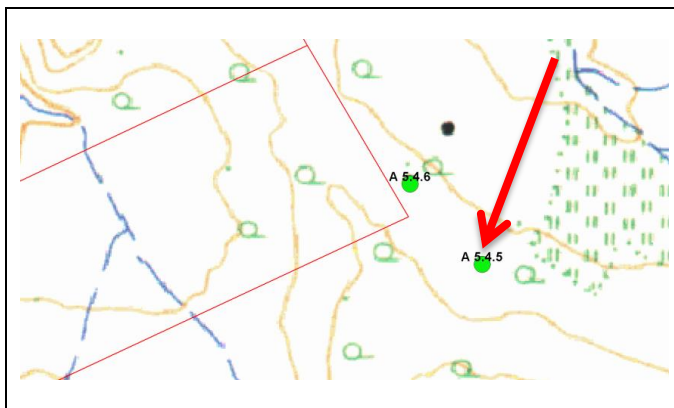
Impact assessment
At present it is impossible to determine if these graves will be impacted on by the mining activities.

Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
1	5	6	4	48	Medium

Mitigation
It is recommended that the burial place is left in place and that the area is fenced off when mining activities take place in the region. If that is not possible, the graves can be relocated after the correct procedures have been followed – see Appendix 3.

Requirements
A valid permit for the relocation of the graves must be obtained from SAHRA.

References
1: 50 000 topocadastral map 2430CC



Location	A 5.4.6	Spitskop 333KT	S 24.85013, E 30.15276
Description			
Single graves found inside old homestead. It has a death date of 1973 on it.			

Significance of site/feature	High on a local level – Grade III
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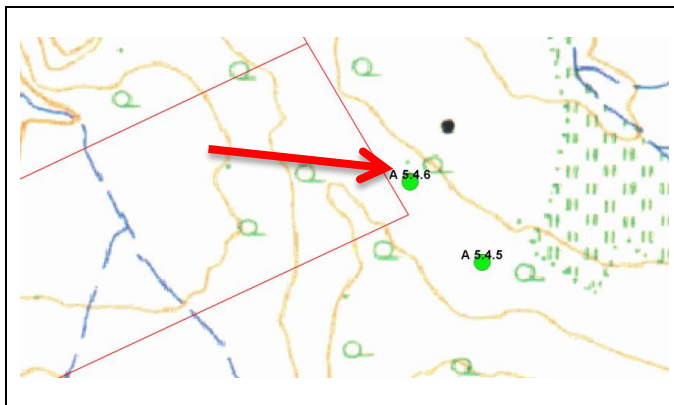
Impact assessment
At present is it impossible to determine if these graves will be impacted on by the mining activities.

Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
1	5	6	4	48	Medium

Mitigation
It is recommended that the burial place is left in place and that the area is fenced off when mining activities takes place in the region. If that is not possible, the graves can be relocated after the correct procedures have been followed – see Appendix 3.

Requirements
A valid permit for the relocation of the graves must be obtained from SAHRA.

References
1: 50 000 topocadastral map 2430CC



Location	A 5.4.7	Spitskop 333KT	S 24.84054, E 30.15853
Description			
Small informal burial place inside village.			

Significance of site/feature	High on a local level – Grade III
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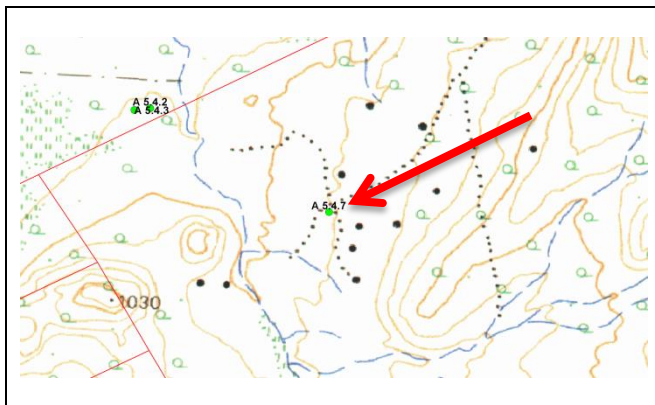
Impact assessment
Because of its location inside the village, it is very unlikely that the proposed mining activities would have an impact on the site.

Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
1	5	6	4	48	Medium

Mitigation
It is recommended that the burial place is left in place and that the area is fenced off when mining activities takes place in the region. If that is not possible, the graves can be relocated after the correct procedures have been followed – see Appendix 3.

Requirements
A valid permit for the relocation of the graves must be obtained from SAHRA.

References
1: 50 000 topocadastral map 2430CC



Location	A 5.4.8	Kennedy's Vale 361KT	S 24.83977, E 30.12206
Description			
At least two graves marked with cement headstones, one of which was replaced by a modern granite stone – the inscription is for a Josias Mapheqce. It is probably linked to the homestead in Site A 5.3.5			

Significance of site/feature	High on a local level – Grade III
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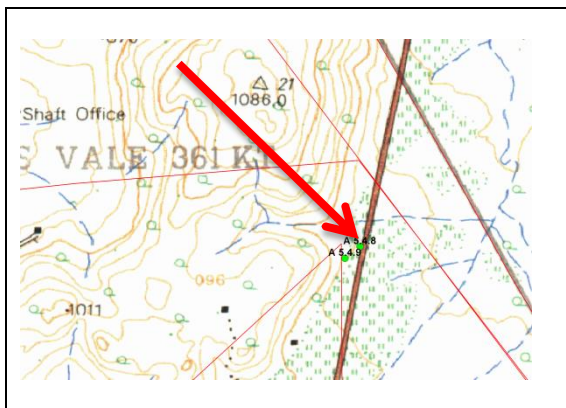
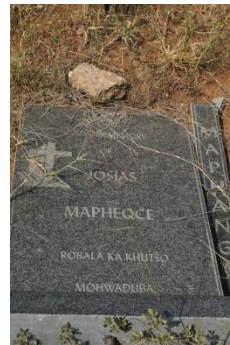
Impact assessment
At present is it impossible to determine if these graves will be impacted on by the mining activities.

Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
1	5	6	4	48	Medium

Mitigation
It is recommended that the burial place is left in place and that the area is fenced off when mining activities takes place in the region. If that is not possible, the graves can be relocated after the correct procedures have been followed – see Appendix 3.

Requirements
A valid permit for the relocation of the graves must be obtained from SAHRA.

References
1: 50 000 topocadastral map 2430CC



Location	A 5.4.9	Kennedy's Vale 361KT	S 24.84034, E 30.12133
Description			
At least two graves marked with cement headstones – the inscriptions are illegible. It is probably linked to the homestead in Site A 5.3.5			

Significance of site/feature	High on a local level – Grade III
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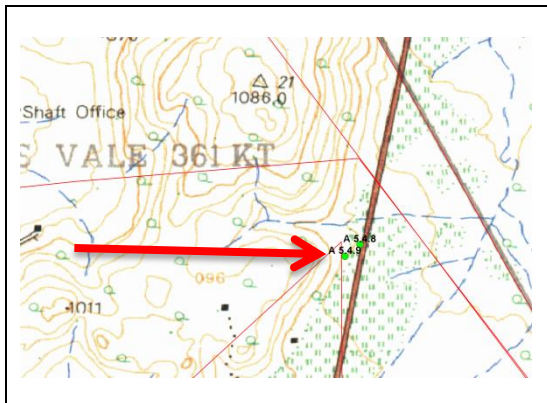
Impact assessment
At present is it impossible to determine if these graves will be impacted on by the mining activities.

Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
1	5	6	4	48	Medium

Mitigation
It is recommended that the burial place is left in place and that the area is fenced off when mining activities takes place in the region. If that is not possible, the graves can be relocated after the correct procedures have been followed – see Appendix 3.

Requirements
A valid permit for the relocation of the graves must be obtained from SAHRA.

References
1: 50 000 topocadastral map 2430CC



5.5 Infrastructure and industrial heritage

NHRA Category	Buildings, structures, places and equipment of cultural significance
Protection status	
General Protection - Section 34: Structures older than 60 years	

Variety of interconnected elements makes up the whole. Impact on part therefore implies an impact on the whole. The various features are subject to damage. Fortunately, these features are usually to identify and are therefore easy to avoid.

Location	No. A 5.5.1	Kennedy's Vale 361KT	S 24.82987, E 30.09760
Description			
Old sluice gate in a water furrow system. It forms part of a larger system of water furrows – see map below – whereby water was extracted from the Steelpoort River for irrigation purposes.			

Significance of site/feature	Low on a provincial level – Grade III
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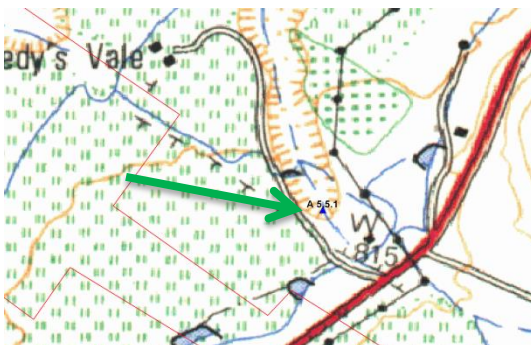
Impact assessment
Although this feature is located outside the mining area, it is part of a larger system which might be impacted on by the proposed mining activities.

Significance of impact					
Extent	Duration	Magnitude	Probability	Significance	Weight
1	5	4	3	30	Low

Mitigation
It is recommended that that irrigation system should be documented (photographed and mapped) in detail before mining activities takes place.

Requirements
SAHRA permit

References
1: 50 000 topocadastral map 2430CC



5.6.1 Public monuments and battlefields

NHRA Category	Places, buildings, structures and equipment of cultural interest
Protection status	
General Protection - Section 37: Public Monuments and Memorials	

Although most of these usually occur in urban areas, some also occur in rural areas where some event of significance took place.

As the sites (battlefields) are difficult to delineate the possibility of an impact on it is possible. Features such as monuments and commemorations are subject to damage. However, they are easy to identify and as a result are easier to avoid. Variety of interconnected elements makes up the whole. Impact on part therefore implies an impact on the whole.

Nil