

MILLENIUM HERITAGE GROUP (PTY) LTD

HIA FOR MAINTENANCE OF THE BUNDLE CONDUCTOR AND TRANSFORMER
STRUCTURES ALONG THE LIMPOPO RIVER, MAPUNGUBWE NATIONAL PARK AND
WORLD HERITAGE SITE
LIMPOPO PROVINCE, SOUTH AFRICA



*Compiled for: De Beers, Venetia Mine
Cnr. Crown Wood Road and Diamond Drive*

Theta /Booyesen Reserve

Private Bag X01

Southdale 2135

*Compiled by: Prof. Shadreck Chirikure and Mr. Eric N. Mathoho
Millennium Heritage Group (PTY) LTD*

TABLE OF CONTENTS

CONTENT	PAGE
I. TECHNICAL AND EXECUTIVE SUMMARIES	3
II. EXECUTIVE SUMMARY	4
ACKNOWLEDGEMENTS:	8
CONSULTANTS: MILLENNIUM HERITAGE GROUP (PTY) LTD	8
1. INTRODUCTION AND BACKGROUND INFORMATION.....	10
2. SCOPE OF WORK.....	13
3. RELEVANT LEGISLATION	15
3.1. THE NATIONAL HERITAGE RESOURCE ACT (25 OF 1999).....	15
3.2. THE HUMAN TISSUE ACT (65 OF 1983).....	21
4. METHODOLOGY.....	22
SOURCE OF INFORMATION.....	22
ASSUMPTION AND LIMITATIONS	24
5. ASSESSMENTS CRITERIA	24
5.1 SITE SIGNIFICANCE	24
5.2 IMPACT RATING	25
5.3 CERTAINTY	27
5.4 DURATION.....	28
5.5 MITIGATION.....	28
6. THE ARCHAEOLOGY AND PALAEOLOGY OF MAPUNGUBWE NATIONAL PARK	28
6.1. FOSSIL RECORDS	28

6.2. ARCHAEOLOGY OF MAPUNGUBWE	30
7. DESCRIPTION OF THE PROPERTY OR AFFECTED ENVIRONMENT	31
8. POTENTIAL IMPACTS ON HERITAGE RESOURCES.	37
9. CONCLUSION AND RECOMMENDATIONS.....	37
10. TOPOGRAPHICAL, GOOGLE EARTH MAPS AND SURVEY SNAPSHOT	39
11. REFERENCE	41
ADDENDUM 1: DEFINITIONS AND ACRONYMS	44
ADDENDUM 2: TYPES AND RANGES AS OUTLINED BY THE NATIONAL HERITAGE RESOURCE ACT (ACT 25 OF 1999)	45
ADDENDUM 3: RELATED PREVIOUS ISSUED PERMIT: MAINTENANCE/RESTORATION	48

i. Technical and Executive Summaries

Property details	
Province	Limpopo
Magisterial District	Vhembe
Topo-cadastral map	22 29
Coordinates	Starting Point S22°.11. 38.08 "& E 29°.23.06.04"). End S22°.11.20.05 "& E 29°.23.45.05").
Closest town	Musina
Farm name	Greefswald

Development criteria in terms of Section 38 (1) of the NHR Act 25 of 1999	Yes	No
Construction of road, wall, power line maintenance , pipeline, canal or other linear form of development or barrier exceeding 300m in length	yes	
Construction of bridge or similar structure exceeding 50m in length		No
Development exceeding 5000 sqm	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 sqm		No
Any other development category, public open space, squares, parks, recreation grounds		No

Development	
Description of development	De Beers Venetia Diamond Mine seeks to perform maintenance work on the bundle conductor and transformer structures including replacement of damaged poles for a powerline over 1.25 kilometers along the Limpopo River.

Project name	MAINTENANCE OF THE BUNDLE CONDUCTOR AND TRANSFORMER STRUCTURES ALONG THE LIMPOPO RIVER
Developer	De Beers Venetia Mine
Heritage consultant	Prof Shadreck and Mr. Mathoho Ndivhuho Eric, Millennium Heritage Pty Ltd
Purpose of the study	To identify and assess significance of sites (if any) to be impacted by the proposed maintenance of the bundle conductor and transformer structures (including electrical pole) along the Limpopo River.

Land use	
Previous land use	Farmland, Military
Current land use	National Park, World Heritage site

ii. Executive Summary

For nearly thirty years, De Beers Venetia has always maintained a mutually beneficial relationship with the Mapungubwe National Park and World Heritage site. One of the guiding principles is the need to achieve sustainable development whilst conserving heritage. This report provides the results of an impact assessment study to identify heritage sites (if any) to be affected by the maintenance of electrical infrastructure supporting the wellfields (i.e. the bundle conductor, transformers and replacement of poles) along the Limpopo River in the Mapungubwe National Park and World Heritage Site. The work will be performed by De Beers Venetia Diamond Mine on its pre-existing assets that were inaugurated long before the gazettement of the Greefswald Farms as part of the Mapungubwe National Park and World Heritage site. Located in the Vhembe District Municipality, Limpopo Province, the scope of work involves performing work along 1.25

kilometers of an existing powerline bundle conductor and transformer structures along the main gravel access road supplying power from the main pump house to Greefswald wellfields (boreholes) on the banks of the Limpopo River. These boreholes were established following a successful application for bulk water use license that is still valid. De Beers performed maintenance work on the boreholes in 2017, after obtaining approval from the South African Heritage Resources Agency (Case ID11803- Permit ID 2639, See addendum (3) SAHRA permit).

The Greefswald wellfields and powerline were connected early in 1998 and are part of the operational activities of Venetia Mine which employs thousands of people locally and around South Africa. However, infrastructure requires constant maintenance to create a safe environment for people and animals. An assessment identified damaged poles on a 1.25 km stretch of powerline along the Limpopo River which constitutes a threat to the Mapungubwe National Park and World Heritage site's visitors, environment and wildlife. The poles are severely infested by termite's activities while others were affected by floods that periodically affect the area. An engineering assessment revealed that these degraded poles can no longer withstand the weight pressure from the powerlines and transformers. This poses a huge risk to people and animals and requires immediate repairs.

De Beers, Venetia Mine requested Millennium Heritage Group (Pty) Ltd, an independent heritage consulting company to assess the heritage sensitivity of the proposed electrical poles, bundle conductors and transformers maintenance work. A multi-stepped methodology was used to address the terms of reference. To begin with, a desktop study was carried out to understand the distribution of heritage within the Mapungubwe National

Park and World Heritage site. This involved consulting contract archaeology reports filed on SAHRIS, research reports and academic publications. Finally, the study was guided by the National Heritage Resources Act of 1999, SAHRA Minimum Standards for impact assessment, the World Heritage Act of 1999, the Mapungubwe National Park Management Plan and the National Environmental Management and Protected Areas Acts.

The study reached the following conclusions and recommendations:

- The proposed project is part of routine maintenance of existing infrastructure. It is aimed at ensuring that damaged poles are replaced to allow for realignment of electrical lines thereby eliminating danger to the public and wildlife. In terms of impact area, the project will be performed along the existing powerline route and will use an access road used to service the water pipeline and the powerline along the Limpopo River.
- Because the project takes place on a disturbed environment, ground clearing will be minimal. Also, no waste rock dumps will be created as there will be no extensive digging or ground disturbance.
- A ground inspection of the full length (and 50-meter corridor) of the proposed work area (1.25 km) identified no archaeological or heritage remains. In fact, the area is dominated by thick layers of alluvium deposits.
- However, although no archaeological remains were found, it is possible that some significant features might be buried beneath the alluvium sand. In the unlikely event that chance finds are encountered during the process of damaged electrical pole maintenance, the following must apply:

- Work must be stopped immediately

A professional archaeologist or nearest heritage authority must be contacted.

Based on this assessment which found no archaeological resources along the Limpopo River, we recommend that the heritage authorities approve the project as planned.

ACKNOWLEDGEMENTS:

CLIENT NAME: De Beers Group, Venetia Mine

Declaration of Independence and CV

We, Shadreck Chirikure and Eric Mathoho, declare that we are independent consultants and have no business, financial, personal or other interest in the proposed development, application or appeal in respect of which we were appointed other than fair remuneration for work performed about the activity, application or appeal. There are no circumstances that compromise our objectivity in the discharge of our professional duty.

Signed:



Shadreck Chirikure, MA, PhD, (UCL) (ICHAM Expert Member, ASAPA Member),
Archaeologist and heritage expert.



Mr. Eric Ndivhuho Mathoho, BA, BA Hons in Archaeology (Univen) MPhil. In Archaeology,
(UCT)PhD Candidate (UCT) ASAPA Member, Archaeologist and Heritage Expert

CONSULTANTS: Millennium Heritage Group (PTY) LTD

Table of Figures

Figure 1: Location of the proposed electrical maintenance project within the Mapungubwe National Park and World Heritage site (Adapted from Google Earth).....	<u>123</u>
Figure 2: Damaged powerline poles	<u>143</u>
Figure 3: Plan drawing of the proposed work.....	<u>143</u>
Figure 4: Proposed project starting point	<u>323</u>
Figure 5: Main gravel access road that transverse alongside the powerline.....	<u>333</u>
Figure 6: Pipeline manhole.....	<u>333</u>
Figure 7: Borehole	<u>343</u>
Figure 8: Wood parkers nest and termite's activities.....	<u>343</u>
Figure 10: Electrical route alongside the gravel road.....	<u>353</u>
Figure 11: Damaged, scarred from the removal of bark by elephants	<u>353</u>
Figure 12: Borehole No:8 Switching station.....	<u>363</u>
Figure 13: Project end.....	<u>363</u>
Figure 14: Snap short of the exiting powerline which transverse for 1,25kilomters alongside the Limpopo River.....	<u>403</u>

1. INTRODUCTION AND BACKGROUND INFORMATION

The study area is situated in the north most part of the Limpopo Province near the Shashi Limpopo Confluence area, the meeting point for the boundaries of the three countries of Botswana, South Africa and Zimbabwe (Fouche 1937, Pikirayi 2001, Huffman 2007). The proposed work area is in the Mapungubwe National Park and World Heritage site, home to the National Heritage sites such as Mapungubwe Hill, K2, and Schroda. National Heritage sites have the highest level of significance in terms of the National Heritage Resources Act 25 of 1999. Additionally, Mapungubwe is a National park protected in terms of the NEMA Protected Areas Act of 2003. The boundaries of the national park form the core of the Mapungubwe Cultural Landscape World Heritage site listed on the World heritage list in 2003. Consequently, Mapungubwe is governed by the South African World Heritage Act of 1999. Flowing from the legislation, the Management Plan of the Mapungubwe National Park and World Heritage site (2013-2018) guides conservation and management processes at the site. Because heritage is a non-renewable resource, all these legal instruments are aimed at the sustainable protection of the cultural significance of Mapungubwe and its surrounds. The sustainable protection of heritage confers many benefits to humanity. Indeed, inter-governmental bodies such as UNESCO and the African Union now strongly advocate for heritage led development within and around listed sites. This vision is also shared by the government of the Republic of South Africa which actively promotes the use of its World and National Heritage in unlocking developmental opportunities for its citizens. Not surprisingly, the Management Plan of the Mapungubwe National Parks and World Heritage Site (2013-2018) actively seeks

to promote heritage led development within and around the listed portion of the Mapungubwe Cultural Landscape (SANParks 2013).

The establishment of Mapungubwe National Park and World Heritage site involved the purchase of a series of farms to create a near 30000square kilometres large protected area. However, numerous facilities pre-existed on the former farms at that time of listing. Other pre-existing assets belong to De Beers Consolidated Mines' Venetia Mine which since 1992 abstracted water from along the Limpopo River. It must however be borne in mind that De Beers played an important role in the establishment of Mapungubwe National Park and World Heritage site through among other things sponsoring academic research and the donation of assets such as land. It was recognized at that time of listing that the conservation of Mapungubwe must accommodate historic infrastructure, on condition that such infrastructure was well maintained (Nomination Dossier 2002).

Against this background, De Beers Venetia Mine proposes to perform some maintenance work on its conductor and transformers including replacement of degraded poles (Fig 1). This is part of the existing powerline from the main pump house to the water abstraction sources of the Venetia Wellfields (Boreholes) distributed alongside the Limpopo River. The project also involves replacement of damaged powerline poles and line realignment. The process of electrical poles maintenance will involve the use of existing gravel access road as previous work has taken place in these areas such as removal of the borderline fence and drilling of new boreholes (Chirikure 2018). To ensure that the proposed development meets the environmental requirements in line with the National Environmental

Management Act 107 of 1998 as amended in 2010 as well as the National Heritage Resources Act 25 of 1999 De Beers appointed an Independent Heritage Impact Assessment Consultants company Millennium Heritage Group (PTY) LTD to undertake an impact assessment of the proposed electrical poles maintenance project.

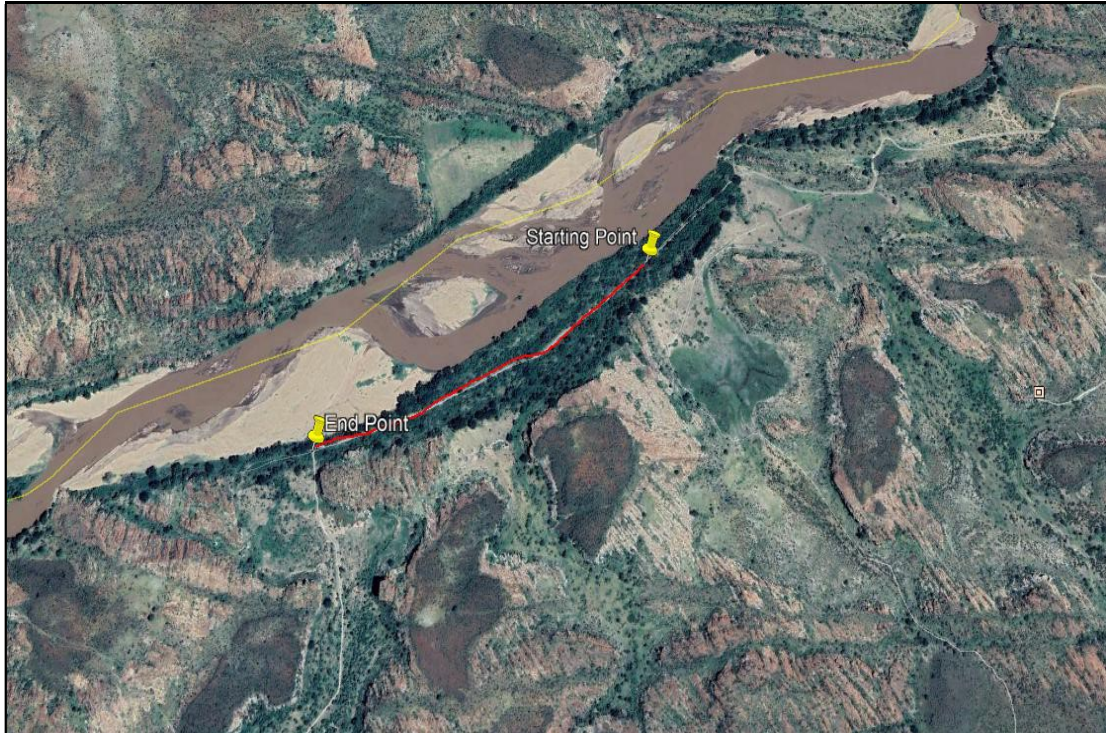


Figure 1: Location of the proposed electrical maintenance project within the Mapungubwe National Park and World Heritage site (Adapted from Google Earth).

Generally, this area is overlain by between 15 and 20 meters of thick alluvium deposit. However, because Mapungubwe is a National Heritage site, any excavation of the ground, even in disturbed areas, must be authorized by the South African Heritage Resources Agency in terms of the National Heritage Resources Act. Furthermore, the ICOMOS Guidelines of 2011 encourage management authorities to ensure that potential impacts are assessed before any proposed development are implemented within World Heritage Sites. This is further captured in the World Heritage Act of 1999 and the Mapungubwe National Park Management Plan. Based on these legislative requirements, De Beers

contracted Millennium Heritage Group (PTY)LTD to assess the possible impacts associated with the proposed work.

2. SCOPE OF WORK

De Beers wishes to perform maintenance work on structures associated with the bundle conductor and transformer structures located within the Greefswald area of Mapungubwe National Park and World Heritage site. This work will also involve the placement of new poles on the powerline. The company appointed Millennium Heritage Group (PTY)LTD to assess the potential impact (if any) of the proposed work on heritage resources on the receiving environment.

Figure 2 shows the problems associated with the existing poles which have introduced challenges associated with load strain from the powerline. This poses a strong risk to human and animal life and must be urgently addressed.

De Beers Venetia Mine plans for the electrical line pole maintenance. The proposed project supply powerline from the Main pump house to the Venetia Wellfields (Boreholes) and pumps alongside the Limpopo River. The area has been covered by a thick alluvium deposit, covered by isolated indigenous bush and isolated trees. Most of the identified electrical poles has been damaged by termite's infestation while some have been noticed with wood parkers nests.



Figure 2: Damaged powerline poles

Figure 3 shows the proposed scope of the work, which involves placing new poles at short distances from the pre-existing ones. This will minimize ground disturbance while replacement poles will also be wooden to blend with the environment.

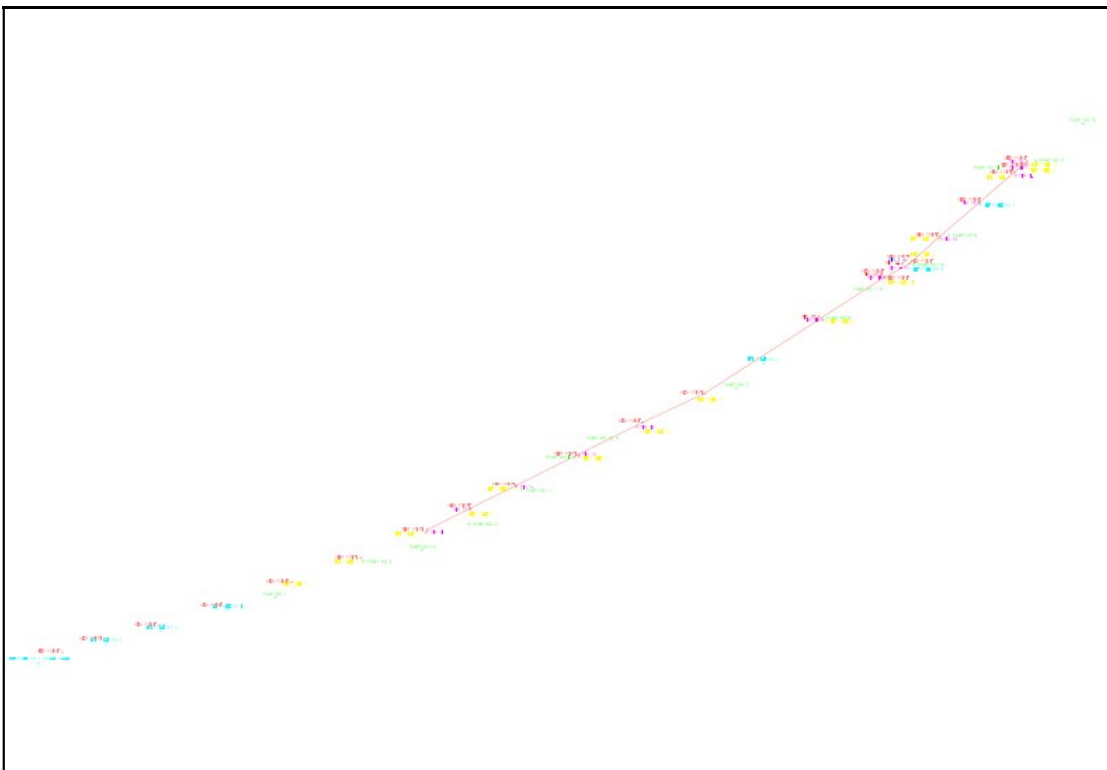


Figure 3: Plan drawing of the proposed work

3. RELEVANT LEGISLATION

The Mapungubwe Cultural Landscape World Heritage site is legally protected through the National Heritage Resources Act (No 25 of 1999), the World Heritage Convention Act (no 43 of 1999) and the National Environmental Management Act 107 of 1998. The property is also recognized as a protected area in terms of the National Environmental Management Protected Areas, 2003 (Act 57 of 2003). The state Party represented by the Department of Environmental Affairs manages the site through Sanparks.

Sanparks provides overall management involving coordinating government efforts to conserve the site. However, the fact that Mapungubwe is a National Heritage site, and that SAHRA is the custodian of the National Heritage Resources Act, they are the decision-making authority on heritage matters at a national level.

3.1. The National Heritage Resource Act (25 of 1999)

This Act established the South African Heritage Resource Agency (SAHRA) as the prime custodian of the heritage resources and makes provision for the undertaking of heritage resources impact assessment for various categories of development as determined by section 38. It also provides for the grading of heritage resources (Section, 7) and the implementation of a three-tier level of responsibility and functions from heritage resources to be undertaken by the State, Provincial and Local authorities, depending on the grade of heritage resources (Section, 8)

In terms of the National Heritage Resource Act 25, (1999) the following is of relevance:

Historical remains

Section 34 (1) No person may alter or demolish any structure or part of a structure, which is older than 60 years without a permit issued by the relevant Provincial Heritage Resources Authority.

Archaeological remains

Section 35(3) Any person who discovers archaeological and paleontological materials and meteorites during development or agricultural activity must immediately report the find to the responsible heritage resource authority or the nearest local authority or museum.

Section 35(4) No person may, without a permit issued by the responsible heritage resources authority-

- destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or paleontological site or any meteorite;
- destroy, damage, excavate, remove from its original position, collect or own any archaeological or paleontological material or object or any meteorite;
- trade in, sell for private gain, export or attempt to export from republic any category of archaeological or paleontological material or object or any meteorite; or
- bring onto or use at an archaeological or paleontological site any excavation equipment or any equipment which assist with the detection or recovery of metal or archaeological material or object or such equipment for the recovery of meteorites.

Section 35(5) When the responsible heritage resource authority has reasonable cause to believe that any activity or development which will destroy, damage or alter any

archaeological or paleontological site is underway, and where no application for a permit has been submitted and no heritage resource management procedures in terms of section 38 has been followed, it may

- serve on the owner or occupier of the site or on the person undertaking such development an order for the development to cease immediately for such period as is specified in the order
- carry out an investigation for obtaining information on whether an archaeological or paleontological site exists and whether mitigation is necessary;
- if mitigation is deemed by the heritage resources authority to be necessary, assist the person on whom the order has been served under paragraph (a) to apply for a permit as required in subsection (4); and
- recover the cost of such investigation from the owner or occupier of the land on which it is believed an archaeological or paleontological site is located or from the person proposing to undertake the development if no application for a permit is received within two weeks of the order being served.

Subsection 35(6) the responsible heritage resource authority may, after consultation with the owner of the land on which an archaeological or paleontological site or meteorite is situated; serve a notice on the owner or any other controlling authority, to prevent activities within a specified distance from such site or meteorite.

Burial grounds and graves

Section 36 (3) No person may, without a permit issued by SAHRA or a provincial heritage resources authority:

- (i) 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
- (ii) bring onto or use at a burial ground or grave any excavation equipment, or any equipment which assists in detection or recovery of metals.

Subsection 36 (6) Subject to the provision of any person who during development or any other activity discover the location of a grave, the existence of which was previously unknown, must immediately cease such activity and report the discovery to the responsible heritage resource authority which must, in co-operation with the South African Police service and in accordance with regulation of the responsible heritage resource authority-

- (l) carry out an investigation for obtaining information on whether such grave is protected in terms of this act or is of significance to any community; and
- if such grave is protected or is of significance, assist any person who or community which is a direct descendant to decide for the exhumation and re-interment of the contents of such grave or, in the absence of such person or community, make any such arrangement as it deems fit.

Cultural Resource Management

38. (1) 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.

(2) The responsible heritage resources authority must, within 14 days of receipt of a notification in terms of subsection (1)—

- (a) if there is reason to believe that heritage resources will be affected by such development, notify the person who intends to undertake the development to submit an impact assessment report. Such report must be compiled at the cost of the person proposing the development, by a person or persons approved by the responsible heritage resources authority with relevant qualifications and experience and professional standing in heritage resources management; or
- (b) notify the person concerned that this section does not apply.

(3) The responsible heritage resources authority must specify the information to be provided in a report required in terms of subsection (2)(a). Provided that the following must be included:

- (a) The identification and mapping of all heritage resources in the area affected;
- (b) an assessment of the significance of such resources in terms of the heritage assessment criteria set out in section 6(2) or prescribed under section 7;
- (c) an assessment of the impact of the development on such heritage resources;
- (d) an evaluation of the impact of the development on heritage resources relative to the sustainable social and economic benefits to be derived from the development;
- (e) the results of consultation with communities affected by the proposed development and other interested parties regarding the impact of the development on heritage resources;
- (f) if heritage resources will be adversely affected by the proposed development,

the consideration of alternatives; and

(g) plans for mitigation of any adverse effects during and after the completion of the proposed development.

(4) The report must be considered timeously by the responsible heritage resources authority which must, after consultation with the person proposing the development, decide—

(a) whether or not the development may proceed;

(b) any limitations or conditions to be applied to the development;

(c) what general protections in terms of this Act apply, and what formal protections may be applied, to such heritage resources;

(d) whether compensatory action is required in respect of any heritage resources damaged or destroyed as a result of the development; and

(e) whether the appointment of specialists is required as a condition of approval of the proposal.

(5) A provincial heritage resources authority shall not make any decision under subsection (4) with respect to any development which impacts on a heritage resource protected at national level unless it has consulted SAHRA.

(6) The applicant may appeal against the decision of the provincial heritage resources authority to the MEC, who—

(a) must consider the views of both parties; and

(b) may at his or her discretion—

(i) appoint a committee to undertake an independent review of the impact assessment report and the decision of the responsible heritage authority;

and

(ii) consult SAHRA; and

(c) must uphold, amend or overturn such decision.

(7) The provisions of this section do not apply to a development described in subsection (1) affecting any heritage resource formally protected by SAHRA unless the authority concerned decides otherwise.

(8) The provisions of this section do not apply to a development as described in subsection (1) if an evaluation of the impact of such development on heritage resources is required in terms of the Environment Conservation Act, 1989 (Act No. 73 of 1989), or the integrated environmental management guidelines issued by the Department of Environment Affairs and Tourism, or the Minerals Act, 1991 (Act No. 50 of 1991), or any other legislation: Provided that the consenting authority must ensure that the

evaluation fulfils the requirements of the relevant heritage resources authority in terms of subsection (3), and any comments and recommendations of the relevant heritage resources authority with regard to such development have been taken into account prior to the granting of the consent.

(9) The provincial heritage resources authority, with the approval of the MEC, may, by notice in the *Provincial Gazette*, exempt from the requirements of this section any place specified in the notice.

(10) Any person who has complied with the decision of a provincial heritage resources authority in subsection (4) or of the MEC in terms of subsection (6) or other requirements referred to in subsection (8), must be exempted from compliance with all other protections in terms of this Part, but any

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

- (i) Construction, alteration, demolition, removal or change of use of a place or a structure at a place;
- (ii) Any change to the natural or existing condition or topography of land, and
- (iii) Any removal or destruction of trees, or removal of vegetation or topsoil;

place means a site, area or region, a building or other structure

structure means any building, works, device or other facility made by people and which is fixed to the ground.

3.2. The Human Tissue Act (65 of 1983)

This act protects graves younger than 60 years, these falls under the jurisdiction of the National Department of Health and the Provincial Health Department. Approval for the exhumation and reburial must be obtained from the relevant provincial MEC as well as relevant Local Authorities.

4. METHODOLOGY

Source of information

i. Desktop studies

Desktop studies were performed to gain information on the archaeological and palaeontological studies of the proposed area. The Mapungubwe Cultural Landscape hosts significant tangible and intangible heritage encompassing Stone Age (Early, Middle and Later), rock art, Iron Age (Early, Middle and Later) and recent historical homesteads. One of the most important layers on the landscape includes sites associated with early state formation. These include Zhizo (Schroda), Leopard Kopje (K2, Mapungubwe, etc.) and Khami and Vha-Venda ancestral homes (see, Lebaron, Kuman & Grab 2010; Forsman, 2011; Pollarolo & Kuman 2009; Van Doornum, 2005; Wilkins, Pollarolo & Kuman 2010; Huffman 2007; Manyanga 2007). Although the Mapungubwe Cultural Landscape as broadly defined is associated with paleontological heritage, the distribution of resources is well known to follow areas dominated by rocks of the Ecca Group. In the proposed project receiving environment, these are found 20 to 50 meters down. The project receiving area is dominated by alluvium deposits. The planned work is in the same area that was assessed for the repair of boreholes (SAHRA Case ID: 11803) (Chirikure 2018). However, summing up all available information, it becomes clear that the proposed

receiving environment is in a disturbed area, that was previously assessed, and is prone to flooding, when water bursts through the banks of the Limpopo River.

ii. Field surveys

To identify sites on the ground and to assess their significance, a dedicated field visit was performed to the site of the proposed development. The fieldwork was conducted on the 18 of October 2019 performed by a team of three individuals. The fieldwork followed systematic inspections along the lengths of the existing powerline. A decision was made to define a corridor of nearly 20 meter on either side of the powerline. Note that this distance was sometimes shorter on the side close to the river and where the border fence still exists. The fieldwork team walked down the linear transects to achieve a hundred percent coverage of the full length of the powerline. During the walking, standard archaeological observation practices were followed; visual inspection was performed on the ground. As to be expected in a disturbed receiving environment, no archaeological or historical sites were recorded. However, the terrain was photographed with a Canon 1000D Camera for documentation purposes.

Assumption and Limitations

It must be pointed out that heritage resources can be found in unexpected places, particularly those beneath the ground. While some heritage resources may simply be missed during surveys (observation) others may occur below the surface of the earth and may be exposed once development (such as the construction of the proposed facilities) commences. These will be covered using the chance finds procedure developed for De Beers. Notwithstanding these limitations, a huge amount of effort was invested in surveying the entire site.

5. ASSESSMENTS CRITERIA

This section describes the evaluation criteria used for determining the significance of archaeological and heritage sites. The significance of archaeological and heritage sites was determined based on the following criteria:

- The unique nature of a site.
- The amount/depth of the archaeological deposit and the range of features (stone walls, activity areas etc.).
- The wider historic, archaeological and geographic context of the sites.
- The preservation condition and integrity of the site.
- The potential to answer present research questions.

5.1 Site Significance

The site significance classification standards as prescribed in the guidelines and endorsed by the South African Heritage Resources Agency (2006) and approved by the Association for Southern African Professional Archaeologists (ASAPA) for the Southern African

Development Community (SADC) region, were used in determining the site significance for this report.

The classification index is represented in the Table below that show grading and rating systems of heritage resources in South Africa.

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

5.2 Impact Rating

VERY HIGH

These impacts would be considered by society as constituting a major and usually permanent change to the (natural and/or cultural) environment, and usually result in severe or very severe effects, or beneficial or very beneficial effects.

Example: The loss of a species would be viewed by informed society as being of VERY HIGH significance.

Example: The establishment of a large amount of infrastructure in a rural area, which previously had very few services, would be regarded by the affected parties as resulting in benefits with VERY HIGH significance.

HIGH

These impacts will usually result in long term effects on the social and /or natural environment. Impacts rated as HIGH will need to be considered by society as constituting an important and usually long-term change to the (natural and/or social) environment. Society would probably view these impacts in a serious light.

Example: The loss of a diverse vegetation type, which is common elsewhere, would have a significance rating of HIGH over the long term, as the area could be rehabilitated.

Example: The change to soil conditions will impact the natural system, and the impact on affected parties (e.g. farmers) would be HIGH.

MODERATE

These impacts will usually result in medium- to long-term effects on the social and/or natural environment. Impacts rated as MODERATE will need to be considered by the public or the specialist as constituting an unimportant and usually short-term change to the (natural and/or social) environment. These impacts are real, but not substantial.

Example: The loss of a sparse, open vegetation type of low diversity may be regarded as MODERATELY significant.

Example: The provision of a clinic in a rural area would result in a benefit of MODERATE significance.

LOW

These impacts will usually result in medium to short term effects on the social and/or natural environment. Impacts rated as LOW will need to be considered by society as constituting an important and usually medium-term change to the (natural and/or social) environment. These impacts are not substantial and are likely to have little real effect.

Example: The temporary changes in the water table of a wetland habitat, as these systems are adapted to fluctuating water levels.

Example: The increased earning potential of people employed because of a development would only result in benefits of LOW significance to people living some distance away.

NO SIGNIFICANCE

There are no primary or secondary effects at all that are important to scientists or the public.

Example: A change to the geology of a certain formation may be regarded as severe from a geological perspective, but is of NO SIGNIFICANCE in the overall context.

5.3 Certainty

DEFINITE: More than 90% sure of a fact. Substantial supportive data exist to verify the assessment.

PROBABLE: Over 70% sure of a fact, or of the likelihood of an impact occurring.

POSSIBLE: Only over 40% sure of a fact, or of the likelihood of an impact occurring.

UNSURE: Less than 40% sure of a fact, or of the likelihood of an impact occurring.

5.4 Duration

SHORT TERM : 0 – 5 years

MEDIUM: 6 – 20 years

LONG TERM: more than 20 years

DEMOLISHED: site will be demolished or is already demolished

5.5 Mitigation

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

- ✓ **A** – No further action necessary
- ✓ **B** – Mapping of the site and controlled sampling required
- ✓ **C** – Preserve site, or extensive data collection and mapping required; and
- ✓ **D** – Preserve site

6. The archaeology and palaeontology of Mapungubwe National Park

6.1. Fossil records

The study relied on unpublished and published sources of information including online databases such as Google Earth and Google Scholar. Certain areas of the Mapungubwe Cultural landscape are richly endowed with palaeontological heritage which has illuminated in varying ways biological evolution in the entire world (Durand 2019).

Geological, the rocks of the study area belong to the Ecca Group of the Karoo Super group renowned for its fossiliferous landscape. Mainstream fossils dominant are leaf imprints, stem and tree trunks fossils imbedded in thick coal seams from the lower part of the karoo- age sedimentary succession (middle Permian) and the dinosaur fossils from the upper part (late Triassic to early Jurassic) of the karoo age sedimentary succession (Durand 2009). Subsequently fossilized leaf imprints are of an extinct plant *Glossopteris*, while stems imprints of horsetail *Equisetales* and leaf imprint of ferns are common.

The late Triassic to early Jurassic strata of the Tuli and Tshipise Blocks contain dinosaurs and thecodont fossil and one known palaeo surface. Evidences of *Euskelosaurus* is considered one of the oldest south African dinosaur's genera documented in the Nyalaland in the north of the KNP and in the Tshikondeni Mine grounds (Durand 1996, Durand 2001). These fossils were identified in the Solitude formation lithostratigraphy (Brandal 2002, Durand 2009). Records of prosauropod dinosaur have been discovered in the Clarens formations in the Vhembe Reserve and Sentinel Ranch in the south Zimbabwe (Durand 2005). Informed by recent palaeontological investigations conducted within and around the Mapungubwe cultural landscape, it can be concluded that the distribution of palaeontological resources along the Limpopo is known.

6.2. Archaeology of Mapungubwe

The Mapungubwe Cultural landscape host significant tangible and intangible heritage encompassing remains of Zhizho and Leopards Kopje kingdoms, Khami settlements, Venda ancestral homes, and recent farm dwellings. This heritage can be summarized as follows:

- Remains of early settlement attributed to the Stone Age (Le Baron, Kuman & Grab 2010; Forsman, 2011; Pollarolo & Kuman 2009; Van Doornum 2005,2007; Wilkins, Pollarolo & Kuman 2010) the Early Iron Age (Huffman 2007; Manyanga 2007) and rock art traditions (Eastwood 1995; Eastwood & Cnoops 1999; Hall & Smith 2000).
- Archaeological remains testifying to the beginnings of Mapungubwe dating from AD 900 to AD 1200, represented by Zhizo and Leopard's Kopje cultures or communities (Calabrese 2005; Hanisch 1980; Huffman 2007; Manyanga 2007; Tsheboeng 2001)
- Remains of palaces dating to the Mapungubwe period, AD 1200 to 1300 (Huffman 2007; Meyer 1998)
- Natural landscape surrounding the built remains
- Intangible heritage, which comprises Mapungubwe Hill itself that is associated with sacredness, belief, customs and tradition of local communities (Murimbika 2006; Schoeman 2006).
- Living and intangible heritage that is associated with continuing traditions of rain making and participation by local communities in reburial ceremonies (Murimbika 2006; Schoeman 2006).

- Landscape sharing and interaction between farmers and hunter-gatherers (van Doornum 2005,2007)
- Remains of recent homesteads of Venda and Tswana people displaced in the area to make ways for farms
- Remains of old farmhouses, stores and military installations
- Recent burials of farmers and farm laborers.

7. DESCRIPTION OF THE PROPERTY OR AFFECTED ENVIRONMENT

The proposed study area is located roughly 3 kilometers north of Mapungubwe Hill, alongside the Limpopo Riverbank. De Beers Venetia is an open cast Mine located 80 kilometers west of Musina, and about 30 kilometres due south of Mapungubwe. Mandated by a current water use license, the Mine abstracts most of its water from alluvial aquifers along the Limpopo on the farm Greefswald. For operational reasons, a powerline supplies energy to the boreholes for water abstraction to take place. The powerline is roughly 1.25 kilometers long and follows the boreholes located along the Limpopo River banks. The boreholes were established following a successful application for bulk water use license that is still valid. The electricity in the area was installed in early 1998. Over the past years, damaged electrical poles were exchanged at certain intervals owing to degradation caused by elements and insect attack. For example, some wooden electrical poles are eaten by termites and wood parkers, thereby reducing their structural integrity. This poses a huge threat to the environment and to wildlife if they fail to contain the load from above. Given these dangers, De Beers seeks to replace affected poles and to maintain the powerline. This will involve a replacement of poles and realignment of the powerline along the same path. Below table are the GPS coordinates of the proposed project start and end (see Figure 3).

		Latitude	Longitude
PHASE 1	Start	S22°.11. 38.08	E 29°.23.06.04").
	End	S22°.11.20.05	"E 29°.23.45.05").

The surrounding area landscape is dominated by irregular plains with ridges and hills, moderately open savanna with poorly developed grass. The study area falls within the Greefswald riparian forest, which occur in the rich alluvial deposit along the Limpopo River bank. Some of the common trees include fever berry bushes, *Sycamore figs*, *Schlerocarya Birrea* and the *Nyala trees*. Various factors are thought to be responsible for the decline of the forest due to an increase number of elephants returned to the southern bank of the Limpopo River since the inception of the Park. Generally, the Geology is dominated by well-established sediments including sandstones of the clarens formation with the weathered materials forming alluvium sand deposited annually during seasonal floods by the Limpopo River. Figure 4 shows the proposed project starting point.



Figure 4: Proposed project starting point



Figure 5: Main gravel access road that transverse alongside the powerline



Figure 6: Pipeline manhole



Figure 7: Borehole



Figure 8: Wood parkers nest and termite's activities



Figure 9: Electrical route alongside the gravel road



Figure 10: Damaged, scarred from the removal of bark by elephants



Figure 11: Borehole No:8 Switching station



Figure 12: Project end

8. POTENTIAL IMPACTS ON HERITAGE RESOURCES.

Based on the results of field working and studies of site distribution maps in the Mapungubwe National Park, no heritage resources were identified. The proposed project is very localized and will take place along the Limpopo River floodplain which is flooded every rain season. The site has been heavily disturbed by access gravel road, pipeline and several boreholes. The lithology of the area is dominated by thick alluvial sand making it unlikely that palaeontological heritage will be impacted.

9. CONCLUSION AND RECOMMENDATIONS

The study reached the following conclusions and recommendations:

- The proposed project is part of routine maintenance of existing infrastructure. It is aimed at ensuring that damaged poles are replaced to allow for realignment of electrical lines thereby eliminating danger to the public and wildlife. In terms of impact area, the project will be performed along the existing powerline route and will use an access road used to service the water pipeline and the powerline along the Limpopo River.
- Because the project takes place on a disturbed environment, ground clearing will be minimal. Also, no waste rock dumps will be created as there will be no extensive digging or ground disturbance.
- A ground inspection of the full length (and 50-meter corridor) of the proposed work area (1.25 km) identified no archaeological or heritage remains. In fact, the area is dominated by thick layers of alluvium deposits.

- However, although no archaeological remains were found, it is possible that some significant features might be buried beneath the alluvium sand. In the unlikely event that chance finds are encountered during the process of damaged electrical pole maintenance, the following must apply:
 - Work must be stopped immediately
 - A professional archaeologist or nearest heritage authority must be contacted.

Based on this assessment which found no archaeological resources along the Limpopo River, we recommend that the heritage authorities approve the project as planned.

10. TOPOGRAPHICAL, GOOGLE EARTH MAPS AND SURVEY SNAPSHOT

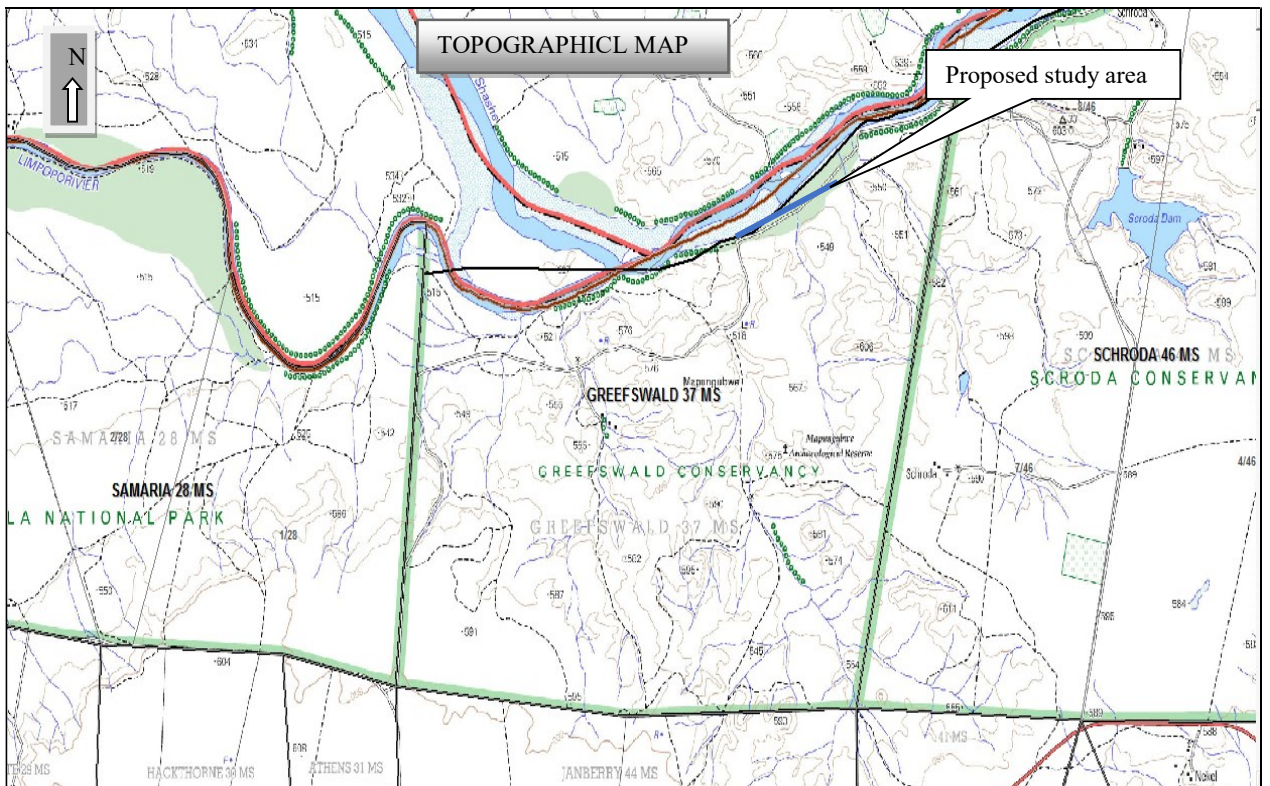
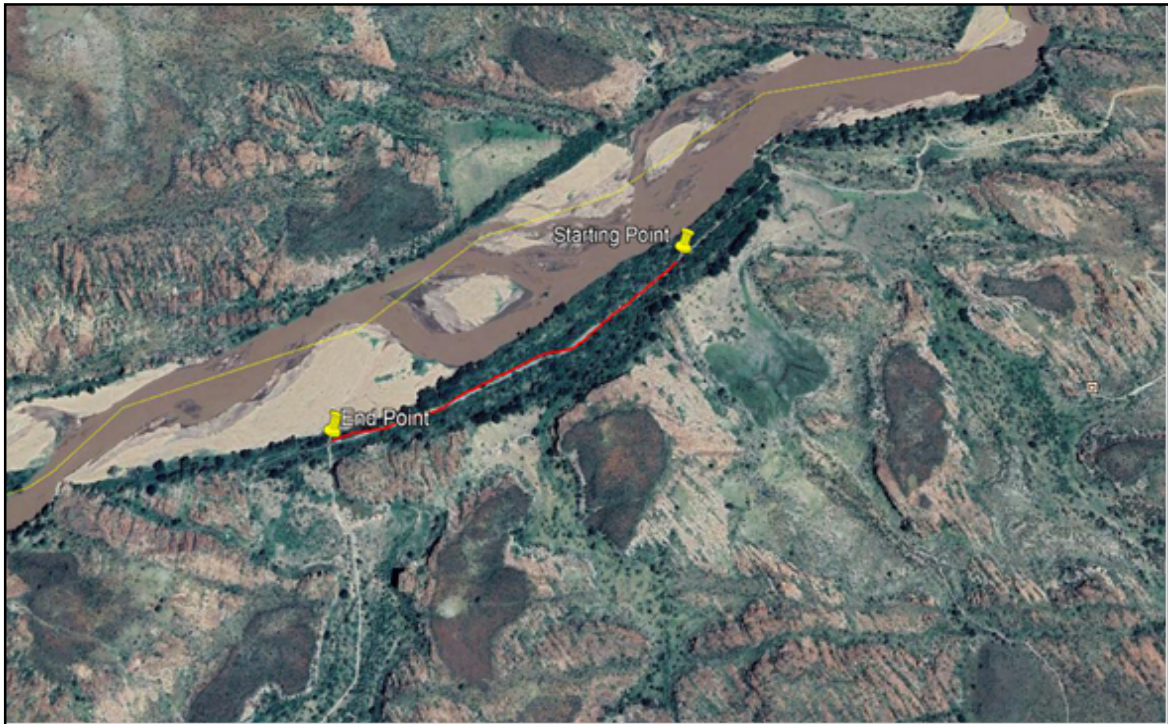




Figure 13: Snap short of the exiting powerline which transverse for 1,25kilometers alongside the Limpopo River

11. REFERENCE

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

Brandl, G. 2002. The geology of the Alldays area. Explanation Sheet 2228 Scale: 1:250 000. Council for Geoscience. 71p.

Deacon, J. & Norton, P. 2003. Mapungubwe Cultural Landscape, South Africa. Site Management Plans. Pretoria: Department of Environmental Affairs and Tourism

Durand, F. 2012. Proposed diamond mine adjacent to Venetia Mine, Limpopo Province: Scoping Palaeontological Report. Unpublished report.

Durand, F. 2009. Vele Colliery Project- Desktop study Palaeontology. Unpublished Report.

Eastwood. ED. 1995. Sheep paintings in the Soutpansberg. *Digging Stick* 12 (3).

Eastwood.E.D. & Fish, W.S. 1995. The Rock Art of the Venetia Limpopo Nature Reserve: A preliminary survey. Unpublished report for De Beers Consolidated Mines Ltd.

Huffman, T.N. 2007 Handbook to the Iron Age: The archaeology of pre-colonial farming societies in southern Africa. Scottville: University of KwaZulu Natal Press

Huffman, T.N. 2011. Origins of Mapungubwe Project: progress Report. Unpublished Report prepared for De Beers, the NRF, SAHRA and SANParks.

Kuman, K., Le Baron, J.C. & Gibbon, R. 2005a. Earlier Stone Age archaeology of the Vhembe- Dongola National Park (South Africa) and vicinity. *Quaternary International* 129: 23-32.

Le Baron, J.C. 2007. The Geoarchaeology of the Hackthorne I site, Limpopo River Valley, South Africa. Unpublished Ph.D dissertation. Johannesburg: University of the Witwatersrand.

Lombard, M, Wadley, L., Deacon, J., Wurz, S., Parsons, I., Mohapi, M., Swart, J & Mitchell, P. 2012. South African and Lesotho Stone Age Sequence Updated (1). *South African Archaeological Bulletin* 67: 123-44.

Makuvaza, S., & Chiwaura, H. 2014. African States Parties, Support, Constraints, Challenges and Opportunities for Managing Cultural World Heritage Sites in Africa. *The Management of Cultural World Heritage Sites and development in Africa*. New York: Springer, pp. 45-53.

Manyanga, M. 2007. Resilient landscapes: socio-environmental dynamics in the Shashe-Limpopo Basin, southern Zimbabwe c. AD 800 to the present. Uppsala. *Societas Archaeologica Uppsaliensis*

Mitchell, P.J. 2002. *The Archaeology of Southern Africa*. Cambridge: Cambridge University Press.

Mothulatshipi, S. M. 2009. Landscape Archaeology of the Later Farming Communities of the Shashe-Limpopo Basin, Eastern Botswana: Land Use Diversity and Human Behaviour. Unpublished PhD. Thesis, University of Edinburgh

Pikirayi, I. 2001. *The Zimbabwe Culture: Origins and Decline of Southern Zambebian States*. Walnut Creek: AltaMira

Phillipson, D.W. 2005. *African Archaeology*. Cambridge: Cambridge University Press

Pollarolo, L. 2004. Archaeological Investigation at Kudu Koppie, a Stone Age Site in Limpopo Province, South Africa. Unpublished Ph.D thesis, University of Florence.

Pollarolo, L. & Kuman, K. 2009. Excavation at Kudu Kopje site, Limpopo Province, South Africa. *South African Archaeological Bulletin* 64: 69-74.

Pollarolo, L, Wilkins, J, Kuman, K & Galletti, L. 2010. Site formation at Kudu Kopje: A late Earlier and Middle Stone Age site in northern Limpopo Province, South Africa. *Quaternary*

International 216: 151-161.

Rubidge, B. 2011. Venetia Mine, Limpopo Province – Palaeontological Impact Assessment. Unpublished Report, Venetia Mine EMP.

Schoonraad. M. 1960. Preliminary survey of the Rock Art of the Limpopo Valley. South African

Wilkins, J, Pollarolo, L, and Kuman, K (2010). Prepared core reduction at the site of Kudu Koppie in northern South Africa: temporal patterns across the Earlier and Middle Stone Age boundary. *Journal of Archaeological Science* 37: 1279– 1292.

Addendum 1: Definitions and Acronyms

Archaeological Material remains resulting from human activities, which are in a state of disuse and are in, or on, land and which are older than 100 years, including artefacts, human and hominid remains, and artificial features and structures.

Chance Finds Archaeological artefacts, features, structures or historical cultural remains such as human burials that are found accidentally in context previously not identified during cultural heritage scoping, screening and assessment studies. Such finds are usually found during earth moving activities such as water pipeline trench excavations.

Cultural Heritage Resources Same as Heritage Resources as defined and used in the South African Heritage Resources Act (Act No. 25 of 1999). Refer to physical cultural properties such as archaeological and paleontological sites; historic and prehistoric places, buildings, structures and material remains; cultural sites such as places of ritual or religious importance and their associated materials; burial sites or *graves* and their associated materials; geological or natural features of cultural importance or scientific significance. Cultural Heritage Resources also include intangible resources such as religion practices, ritual ceremonies, oral histories, memories and indigenous knowledge.

Cultural Significance The complexities of what makes a place, materials or intangible resources of value to society or part of, customarily assessed in terms of aesthetic, historical, scientific/research and social values.

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

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

***In Situ* material** *Material culture* and surrounding deposits in their original location and context, for example an archaeological site that has not been disturbed by farming.

Late Iron Age this period is associated with the development of complex societies and state systems in southern Africa.

Material culture Buildings, structure, features, tools and other artefacts that constitute the remains from past societies.

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

Acronyms:

AIA	Archaeological Impact Assessment
EIA	Environmental Impact Assessment
EIA	Early Iron Age
EMP	Environmental Management Plan
MHG	Millenium Heritage Group (PTY)LTD
NEMA	National Environmental Management Act, 1998 (Act No.107 of 1998)
NHRA	National Heritage Resources Act, 1999 (Act No.25 of 1999)
SAHRA	South African Heritage Resources Agency
ESA	Early Stone Age
MSA	Middle Stone Age
LSA	Late Stone Age
IA	Iron Age
LIA	Late Iron Age
UNESCO	United Nations Educational, Scientific and culturural Organization
WHC	World Heritage Conventions of 1972

ADDENDUM 2: Types and ranges as outlined by the National Heritage Resource Act (Act 25 of 1999)

The National Heritage Act (Act No 25 of 1999, Art 3) outlines the following types and ranges of the heritage resources that qualify as part of the national estate, namely:

- (a) Places, buildings structures and equipment of cultural significance;
- (b) Places to which oral tradition are attached or which are associated with living heritage;
- (c) Historical settlement and townscapes
- (d) Landscape and natural features of cultural significance;
- (e) Geological sites of scientific or cultural importance

- (f) Archaeological and paleontological sites
- (g) Graves and burial ground including-
 - (I) Ancestral graves
 - (II) Royal graves and graves of traditional leaders
 - (III) Graves of victim 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) movable objects, including-
 - (I) object recovered from soil or waters of South Africa, including archaeological and paleontological objects and material, meteorites and rare geological specimens;
 - (II) objects to which oral traditions are attached or which are associated with living heritage
 - (III) ethnographic art and objects;
 - (IV) military objects;
 - (V) objects of decorative or fine art;
 - (VI) object of scientific or technological interest; and
 - (VII) books, records, documents, photographs, positive and negatives, graphic, film or video material or sound recording, 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).

The National Heritage Resource Act (Act No 25 of 1999, Art 3) also distinguishes nine criteria for places and objects to qualify as 'part of the national estate if they have cultural significance or other special value... these criteria are the following:

- (a) its importance in the community, or pattern of South Africa's history;
- (b) its possession of uncommon, rare or endangered aspects of South Africa's natural or cultural heritage;

- (c) its potential to yield information that will contribute to an understanding of South Africa's natural or cultural heritage;
- (d) its importance in demonstrating the principal characteristics of a particular class of South Africa's natural or cultural places or objects;
- (e) its importance in exhibiting particular aesthetic characteristics valued by a community or cultural group;
- (f) its importance in demonstrating a high degree of creative or technical achievement at a particular period;
- (g) its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons
- (h) Its strong or special association with the life or work of a person, group or organization of importance in the history of South Africa
- (i) Sites of significance relating to the history of slavery in South Africa.

Addendum 3: Related previous Issued Permit: Maintenance/Restoration

Refurbishment and re-drilling of boreholes along the Limpopo River in the Mapungubwe National Park and World Heritage Site by De Beers Venetia Mine

Our Ref:



an agency of the
Department of Arts and Culture

T: +27 21 462 4502 | F: +27 21 462 4509 | E: info@sahra.org.za
South African Heritage Resources Agency | 111 Harrington Street | Cape Town
P.O. Box 4637 | Cape Town | 8001
www.sahra.org.za

Enquiries: Phillip Hine
Tel: 021 462 4502
Email: phine@sahra.org.za
CaseID: 11803

Date: Friday October 27, 2017
Page No: 1

PermitID: 2639

PERMIT: Maintenance/Restoration

In terms of Section 27(18) of the National Heritage Resources Act (Act 25 of 1999)

Permit Holder: Mr Petrus Visser
De Beers Considedated Mines
Cnr. Crownwood Road and Diamond Drive
Theta/Booyens Reserve
Private Bag X01, Southdale 2193

Site: Mapungubwe Cultural Landscape (Mapungubwe Cultural Landscape)

This permit is issued to Mr Petrus Visser of De Beers (Venetia Mine) for maintenance of four (4) boreholes located along the Limpopo River, Mapungubwe national heritage site.

Conditions:

1. Mr Petrus Visser or an authorised representative must be on site during maintenance activities.
2. The activities will consist of:
 - The refurbishment of two (2) existing boreholes (SA1 & SA3);
 - The re-drilling of two (2) boreholes
3. The landowner must be consulted and informed before and after the activities.
4. A final report on the results of the maintenance activities should be submitted to SAHRA on or before the end of October 2018.
5. It is the responsibility of the permit holder to obtain permission from the landowner for each visit, and to ensuring that she has an understanding with the landowner concerning: the number of visitors and workers; speed limits on access roads; possible prohibitions on off-road driving; size, type and number of vehicles permitted; possible prohibitions on trespassing beyond the site; disturbing fauna, flora or substrate; appropriate hours of visiting and working on the Site; use of firewood, electricity and water; lighting fires and the prevention of uncontrolled fires and any fencing necessary to protect livestock. Conditions of access imposed by the landowner must be observed.

Refurbishment and re-drilling of boreholes along the Limpopo River in the Mapungubwe National Park and World Heritage Site by De Beers Venetia Mine

Our Ref:



an agency of the
Department of Arts and Culture

T: +27 21 462 4502 | F: +27 21 462 4509 | E: info@sahra.org.za
South African Heritage Resources Agency | 111 Harrington Street | Cape Town
P.O. Box 4637 | Cape Town | 8001
www.sahra.org.za

Enquiries: Phillip Hine
Tel: 021 462 4502
Email: phine@sahra.org.za
CaseID: 11803

Date: Friday October 27, 2017
Page No: 2

PermitID: 2639

6. The amount of traffic, i.e. numbers of people on site, should be minimised as much as possible to avoid excessive disturbance of the site.
7. SAHRA shall not be liable for any losses, damages or injuries to persons or properties as a result of any activities in connection with this permit.
8. SAHRA reserves the right to cancel this permit by notice to the permit holder.

This permit is valid from
27/10/2017 to 31/10/2018

Phillip Hine
Acting Manager: Archaeology, Palaeontology and Meteorites Unit
South African Heritage Resources Agency

Additional Info:

Please note that this permit may be suspended should an appeal against the decisions be received by SAHRA within 14 days from the date of the permit. SAHRA may not be held responsible for any costs or losses incurred in the event of the suspension or retraction of this permit.

ADMIN: Direct URL to case: <http://www.sahra.org.za/node/408887>