

# **PHASE 1 HERITAGE RESOURCES SCOPING REPORT**

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## **PROPOSED EXPLORATION BY NDOWANA HAENERTZBURG, LIMPOPO**

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For: Jan Phelan  
P.O. Box 25  
Howick  
3290

Frans Roodt  
Assisted by Frans E. Roodt & Liesl Stegmann

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June 2008

Tel: (015) 225 7075  
Cell: 083 770 213  
Fax: 086 670 9130  
E-mail: hr19@mweb.co.za



PO Box 1600  
POLOKWANE  
0 7 0 0

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## 1. INTRODUCTION AND TERMS OF REFERENCE

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Ndowana Exploration Two (Pty) Ltd, a joint venture between Mvelaphanda Resources (Pty) Ltd. and De Beers Consolidated Mines Limited has been carrying out prospecting in the Haenertsburg area based on an authorisation (a Prospecting Right and an Environmental Management Plan, issued by the Department: Minerals and Energy (DME), in terms of the Mineral and Petroleum Resources Development Act and related regulations on 25 January 2007.

One of the conditions of the original EMP was that if further prospecting activities were necessary in the areas identified as “sensitive areas”, then detailed environmental impact assessments (EIAs) would be carried out for these areas. It is this assessment that is now being conducted. In the initial phase of prospecting the aim was to identify if there was any of the targeted material (kimberlite) of interest in the area.

### **Ndowana proposes to continue with the prospecting as follows:**

- Shallow manual pitting – 1m x 1m, up to 2m deep; will not exceed 4% disturbance on the site over certain areas to be determined. The area of disturbance is estimated at 360 m<sup>2</sup> in total, access will be on foot.
- Narrow diameter drilling – access for drill rig from nearest road or track; water storage facility not usually necessary but for core drilling a small storage facility might be necessary for re-circulation of water; water will be brought in by water tanker if needed. Up to 14,800 sq. m may be disturbed in total (excluding the access tracks).
- Mini bulk sampling - done in one of two ways, or a combination of both:
  - (a) Large diameter drilling – access tracks for drill rig and trucks; temporary facilities for storage of water for re-circulation and for collection of drill tailings whilst drilling. Up to 10,000 sq. m may be disturbed in total;
  - (b) Mechanised pitting – pits up to 15m x 15m x 3m deep = 225 sq. m per pit – 1 per kimberlite or a few smaller pits to equal this total size; minor earth moving equipment will be used to excavate the pits, access tracks for this equipment and trucks will be required. Up to 2,080 sq. m may be disturbed (excluding the access tracks).

De Beers, on behalf of Ndowana Exploration, has appointed Jan Phelan of “Plan-It with envirocare” as the Environmental Assessment Practitioner (EAP) to undertake the Basic Environmental Assessment as part of the application to DME.

The author was contracted to undertake a heritage scoping survey of the proposed prospecting area, situated on farms: Paeroa 1083 LS; Paardevlei 201 KS; Colberg 1169 LS (Refer to map, South Africa 1:50 000 2329 DD). The aim was to determine the presence or not of heritage resources such as archaeological and historical sites and features, graves and places of religious and cultural significance, and to submit appropriate recommendations with regard to the cultural resources management measures that may be required at affected sites / features.

The report thus provides an overview of the heritage resources that may occur in the demarcated area where development is intended. The significance of the heritage resources was assessed in terms of criteria defined in the methodology section. The impact of the proposed development on these resources is indicated and the report recommends mitigation measures that should be implemented to minimize the adverse impact of the proposed development on these heritage resources.

## 2. RELEVANT LEGISLATION

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The application constitutes an activity, which may potentially be harmful to heritage resources that may occur in the demarcated area. The National Heritage Resources Act (NHRA - Act No. 25 of 1999) protects all structures and features older than 60 years (section 34), archaeological sites and material (section 35) and graves and burial sites (section 36). In order to comply with the legislation, the Applicant requires information on the heritage resources, and their significance that may occur in the demarcated area. This will enable the Applicant to take pro-active measures to limit the adverse effects that the development could have on such heritage resources.

In terms of the National Heritage Resources Act (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(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

### **Burial grounds and graves**

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

- (c) 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
- (b) 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 detection or recovery of metals.

### **Culture resource management**

Section **38(1)** Subject to the provisions of subsection (7), (8) and (9), any person who intends to undertake a development\* ...

must at the very earliest stages of initiating such development notify the responsible heritage resources authority and furnish it with details regarding the location, nature, and extent of the proposed development.

\***‘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-

- (a) construction, alteration, demolition, removal or change of use of a place or a structure at a place;
- (b) carry out any works on or over or under a place\*;
- (e) any change to the natural or existing condition or topography of land, and
- (f) 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. METHOD

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#### 3.1 Sources of information

The source of information was primarily the field reconnaissance and referenced literary sources.

A pedestrian survey of selected areas and a drive through by vehicle of the demarcated area was undertaken, during which standard methods of observation were applied. As most archaeological material occur in single or multiple stratified layers beneath the soil surface, special attention was given to disturbances, both man-made such as roads and clearings, as well as those made by natural agents such as burrowing animals and erosion. Locations of heritage remains were recorded by means of a GPS (Garmin 60). Heritage material and the general conditions on the terrain were photographed with a Panasonic Lumix Digital camera.

#### 3.2 Limitations

The scoping survey was thorough, but limitations were experienced due to the fact that archaeological sites are subterranean and only visible when disturbed. Vegetation was dense and visibility limited. It is thus possible that sites have been missed.

#### 3.3 Categories of significance

The significance of archaeological sites is ranked into the following categories.

• No significance: sites that do not require mitigation.
• Low significance: sites, which <i>may</i> require mitigation.
• Medium significance: sites, which require mitigation.
• High significance: sites, which must not be disturbed at all.

The significance of an archaeological site is based on the amount of deposit, the integrity of the context, the kind of deposit and the potential to help answer present research questions. Historical structures are defined by Section 34 of the National Heritage Resources Act, 1999, while other historical and cultural significant sites, places and features, are generally determined by community preferences.

*A crucial aspect in determining the significance and protection status of a heritage resource is often whether or not the sustainable social and economic benefits of a proposed development outweigh the conservation issues at stake. Many aspects must be taken into consideration when determining significance, such as rarity, national significance, scientific importance, cultural and religious significance, and not least, community preferences. When, for whatever reason the protection of a heritage site is not deemed necessary or practical, its research potential must be assessed and mitigated in order to gain data / information which would otherwise be lost. Such sites must be adequately recorded and sampled before being destroyed. These are generally sites graded as of low or medium significance.*

### 3.4 Terminology

Early Stone Age:	Predominantly the Acheulean hand axe industry complex dating to + 1Myr yrs – 250 000 yrs. before present.
Middle Stone Age:	Various lithic industries in SA dating from ± 250 000 yr. - 30 000 yrs. before present.
Late Stone Age:	The period from ± 30 000-yr. to contact period with either Iron Age farmers or European colonists.
Early Iron Age:	Most of the first millennium AD
Middle Iron Age:	10 <sup>th</sup> to 13 <sup>th</sup> centuries AD
Late Iron Age:	14 <sup>th</sup> century to colonial period. <i>The entire Iron Age represents the spread of Bantu speaking peoples.</i>
Historical:	Mainly cultural remains of western influence and settlement from AD1652 onwards – mostly structures older than 60 years in terms of Section 34 of the NHRA.
Phase 1 assessment:	Scoping surveys to establish the presence of and to evaluate heritage resources in a given area
Phase 2 assessments:	In depth culture resources management studies which could include major archaeological excavations, detailed site surveys and mapping / plans of sites, including historical / architectural structures and features. Alternatively, the sampling of sites by collecting material, small test pit excavations or auger sampling is required.
Sensitive:	Often refers to graves and burial sites although not necessarily a heritage place, as well as ideologically significant sites such as ritual / religious places. <i>Sensitive</i> may also refer to an entire landscape / area known for its significant heritage remains.

## 4. DESCRIPTION OF THE AFFECTED TERRAIN

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The proposed prospecting area is situated on farms, which are still in production, mainly concerned with forestry activities. The terrain is mountainous, with rocky cliffs gently sloping toward the valley below. Vegetation consists of pine forest, interspersed with acacia woodlands, protea bush. Grasslands dominate large areas of the terrain.

## 5. RESULTS OF THE SCOPING SURVEY

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### 5.1 HISTORICAL PERIOD

An old prospecting ditch (adit) was noted on the northerly facing slope of the mountain. At present, a protea tree is growing out of it. In all probability, it is related to the old prospecting ditches found to the east of the proposed area. GPS co-ordinates: *S23° 59' 43.4" E29° 55' 25.6"*

### 5.2 GRAVES

No formal graves were noted.

### 5.3 IRON AGE REMAINS

No Iron Age material was noted on the terrain.

### 5.4 STONE AGE REMAINS

No Stone Age material was noted on the terrain.

## 6. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND INFORMATION

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The Escarpment Region has a rich archaeological tradition, starting from the Stone Age period, right up to the Historical period.

According to the most recent archaeological cultural distribution sequences by Huffman (2007), this area falls within the distribution area of various cultural groupings originating out of both the Urewe Tradition (eastern stream of migration) and the Kalundu Tradition (western stream of migration). The facies that may be present are:

Urewe Tradition: Kwale branch- *Mzonjani facies AD 450 – 750* (Early Iron Age)  
Moloko branch- *Icon facies AD 1300 - 1500* (Late Iron Age)

Kalundu Tradition: Happy Rest sub-branch - *Doornkop facies AD 750 - 1000* (Early Iron Age)  
*Eiland facies AD 1000 – 1300* (Middle Iron Age)  
*Klingbeil facies AD 1000 - 1200* (Middle Iron Age)  
*Letaba facies AD 1600 - 1840* (Late Iron Age)

*None of the above-mentioned archaeological remains or other heritage remains of importance were noted on the terrain.*

**Short Historical Overview** (The history of the area is covered in a separate report)

The discovery of gold in the Haenertsburg stimulated the development of this quaint village on the R71, toward Magoebaskloof. Given official status in 1887 the town never really developed past being a village. Initiatives by government to stimulate landownership were unsuccessful as many miners preferred to reside on their claims. Alas, the mineral deposits in the area were soon out of reach of the ordinary miner and many either sold their claims to bigger companies who had the capital to mine effectively or simply left the region to the Witwatersrand Goldfields.

Haenertsburg was a major stopover locale as the stagecoach service run by the Zeederbergers stopped over in Haenertsburg en route from Pietersburg to Leydsdorp, where gold mining of the Selati and Murchinson range was in progress.

Haenertsburg was relatively untouched by the Anglo-Boer War (1899-1902), until 1900, after the British Army had driven the Boers to Lydenburg. In late 1900, Haenertsburg was for one day only the seat of Government of the South African Republic, after a meeting between Schalk Burger (acting President in Kruger's absence) and other members of the Volksraad took important decisions, after an 'official' sitting in the Mining Commissioner's office.

A Long Tom cannon was brought into Haenertsburg by the Boers. The British decided to attack the Boers at Haenertsburg and capture the Long Tom. The Boers were losing the battle and when it appeared that they would be overcome by the British a decision was made to blow the Long Tom up using dynamite, to prevent the cannon falling into British hands. At the end of April 1901, the British occupied Haenertsburg.

After the War, repatriation occurred and farms were re-organised. New landowners emerged and it is out of this group and time that the current industry of forestry and plantations occurred.

## **7. DISCUSSION**

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The proposed development in the designated area poses no impact on archaeological material and no historical structures were found in the area. The area does however have a rich history, which in part also relates to early mining activities in the area attested to by the old prospecting ditch found on the site and to the East.

## **8. RECOMMENDATIONS FOR MITIGATION AND MANAGEMENT MEASURES**

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Archaeologically, the demarcated area is of low significance, yet it must be borne in mind that should any archaeological or historical material come to light it must be reported immediately to the archaeologist and/or relevant heritage authority, in order for it to be dealt with in an appropriate manner.

## **9. BIBLIOGRAPHY**

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**Changuion, L.** 1987. *Haenertsburg 100:1887-1987*. Review Printers Pietersburg 1987

**Huffman, T.N.** 2007. *Handbook to the Iron Age. The Archaeology of Pre-colonial Farming Societies in Southern Africa*. University of KwaZulu-Natal Press.



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FRANS ROODT (BA Hons, MA Archaeology, Post Grad. Dip. Museology; UP)  
Principal Investigator for R & R Cultural Resource Consultants





Fig 1. General view of the site, from the valley towards “Iron crown”



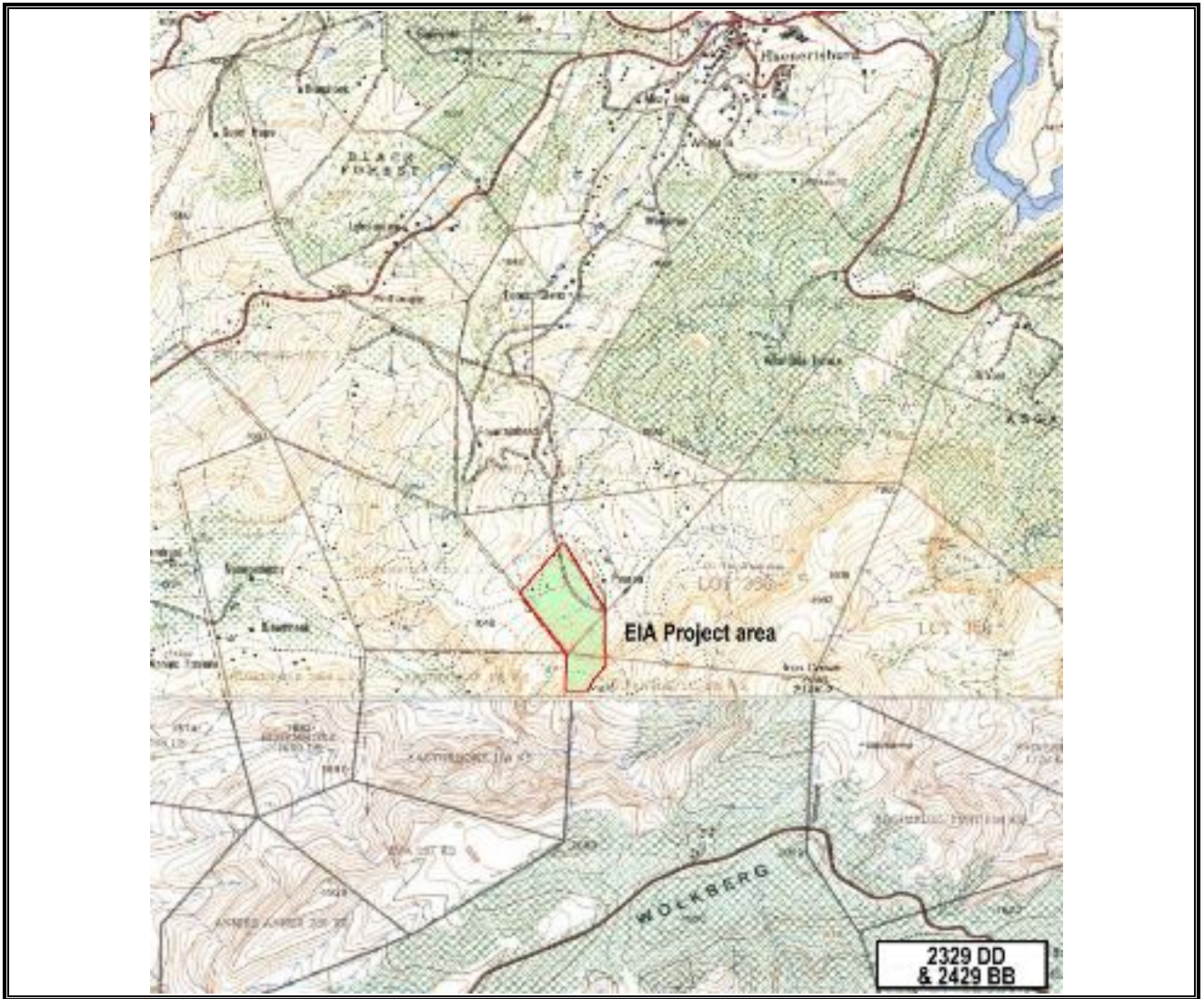
Fig 2. General view of the site from the summit



Fig 3. Old prospectors ditch obscured by a tree.



Fig 4. Old prospectors ditch.



Locality Map

**ADDENDUM TO THE PHASE 1 HERITAGE RESOURCES SCOPING REPORT: PROPOSED EXPLORATION BY NDOWANA, HAENERTZBURG, LIMPOPO**

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**1. DESCRIPTION OF THE PROPOSED DEVELOPMENT AND TERRAIN**

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The terrain was inspected again after forestry areas were cleared of vegetation. Additional heritage remains were noted in the cleared areas, near a stream.

**2. RESULTS OF THE SCOPING SURVEY**

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**2.1 HISTORICAL PERIOD**

An adit used during early gold mining was noted at  $S23^{\circ} 59' 27.3'' E29^{\circ} 55' 25.5''$ . Andrew MacDonald of De Beers investigated the adit and followed its entire length of 65m. He reported to me that he did not notice any cultural material in the tunnel. He further stated that although the tunnel seems safe that we, in terms of mine safety, should under no circumstance attempt to enter the tunnel due to the possible danger of collapsing. We accept his findings that no cultural material was noticeably located in the tunnel.

Similar remains are located outside of the proposed prospecting area to the south of Paardevlei and east of Paeroa. Thus the significance of the adits in the prospecting area is rated as low. Should drilling in this area take place and any cultural material is unearthed, the archaeologist should be contacted.

Significance: Low.



Fig 1. View of trench leading to adit.



Fig 2. View of tunnel opening of adit.

A stone terrace was noted at  $S23^{\circ} 59' 28.1'' E29^{\circ} 55' 30.0''$ . Structurally this does not appear to date to the Iron Age. It appears that the wall is a retaining wall to prevent erosion and was in all likelihood constructed for the plantations, as it is currently in a plantation.

Significance: None.



Fig 3. View of terrace.



Fig 4. View of terrace.

A severely eroded brickery and a brick pillars with walling was noted at  $S23^{\circ} 59' 32.0'' E29^{\circ} 55' 38.9''$ . There are 6 knee-high square pillars with low walling between them. Possibly used as a platform, yet the exact use cannot be established, in all probability it was used by the logging industry and not by miners in the gold prospecting past of the area. Most prospectors preferred to stay on their diggings (stands) and photos of this era point to rondavel type structures using thatch for roofing or tents, often covering the entrance to the adit.

Significance: None



Fig 5. View of brickery.

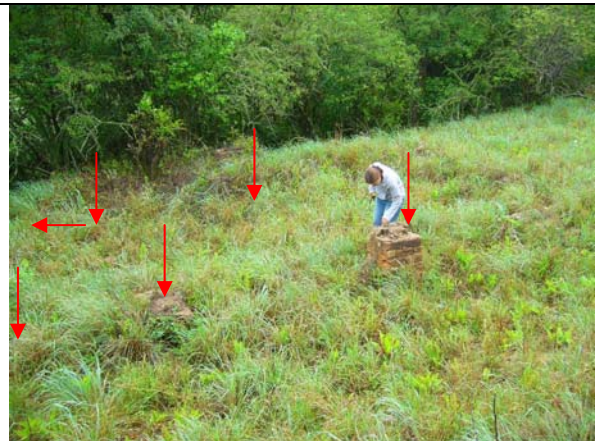


Fig 6. View of brick pillar. Arrow indicates position of other pillars. 6<sup>th</sup> just out of view.

### 3. CONCLUSION

From the cited sources in the main text and from maps of the area, it appears that the bulk of early mining activities occurred on adjacent areas, thus examples of this type of cultural remains are 'preserved' in other none threatened areas. Therefore the mining features do not represent a fatal flaw in terms of proceeding with the development on condition that the under-mentioned mitigation and management measures are implemented

#### 4. MANAGEMENT AND MITIGATION MEASURES

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Section 34 of the NHRA Act 25 of 1999 protects all manmade structures older than 60 years, which may not be destroyed or impacted on without a permit issued by the relevant heritage resources authority.

In view of the above it is recommended that in the event of the proposed prospecting activity having an impact on or posing a threat to the recorded historical mining features in the demarcated area, a Phase 2 assessment be conducted to record and document these remnants of the mining history.

1. This will entail GIS of all locatable features and archaeological excavation to determine the nature of obscured features and structures and mining processes involved.

2. Study of literature, photographic and oral sources.

Very little is known about the mining history in the Limpopo Province as the majority of research has been conducted in the Witwatersrand. Mining in the Limpopo was not on the same commercial scale as in the Witwatersrand and thus would have had a different impact on the social and community fabric as a whole.

Photographic and historical evidence demonstrates structures that are no longer visible on the surface surrounding the adits. Remnants of these may now be subterranean. Soil and ore that was removed is also no longer visible on the surface as mounds or dumps. Our investigation will aim to determine the process involved in all aspects of the mining and determination of what may archaeologically still be available for study, below current ground level.



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FRANS ROODT (*BA Hons, MA Archaeology, Post Grad. Dip. Museology; UP*)  
Principal Investigator for R & R Cultural Resource Consultants

**Assessment of Significance of Impacts**

Duration / Sensitivity	5 = Permanent (irreplacable or irreversible), 4 = Long term, 3 = Medium term, 2 = Short term or intermittent, 1 = negligible
Extent	5 = impact extends significantly beyond the area of activity, 3 = impacts extends beyond the area of activity, 1 = impact only at area of activity
Probability	10 = definite (where the impact will occur regardless of any prevention measure), 7 = highly probable (where it is most likely that the impact will occur) 5 = probable (where there is a distinct possibility that the impact will occur), 1 = improbable

Discretion may be used to assign values between these ones defined above.

Any aspect rated at 64% and above is considered to be significant

ACTIVITY of concern	ASPECT of the activity which interacts with the environment	IMPACT	SEVERITY = Duration + Extent		SEVERITY	PROBABILITY	SIGNIFICANCE = Severity x Probability
			Duration / Sensitivity	Extent			
Manual pitting, narrow diameter drilling, large diameter drilling or mini-bulk sampling	Excavations or diggings of any sort which unearth or prove to be on top of or near remains of early structures, sites , etc	Potential disturbance of items of cultural or historical significance.	5	1	6	6	36

**MITIGATION**

List Mitigation in Place at the Time of Rating or Proposed Mitigation for second rating.

1.Ndowana workers and contractors will be briefed in their induction to report any signs of buildings, structures or evidence of cultural sites of any sort and to cease work until the site has been investigated. 2.Procedure in place for contact of relevant person to visit and make assessment.