

# PHASE 1 HERITAGE IMPACT ASSESSMENT

---

## DER BROCHEN TAILINGS DAMS FARMS: HELENA AND ST. GEORGE MPUMALANGA PROVINCE

---

**FOR: SRK Consulting**  
P O Box 55291  
Northlands  
2116

**Frans Roodt**

---

January 2003

**Tel:** (015) 225 7075  
**Cell:** 083 770 2131  
**E-mail:** hr19@pixie.co.za



PO Box 1600  
**PIETERSBURG**  
0 7 0 0

## CONTENTS

3	Executive summary
4	1. Introduction
	2. Method
	2.1 Sources of information
	2.2 Limitations
5	2.3 Categories of significance
	2.4 Terminology
6	3 Relevant legislation
	3.1 National Heritage Resources Act
	3.2 Human tissues Act
	4 Description of terrain
7	5. Archaeological and Historical Remains
	5.1 Stone Age Remains
	5.2 Iron Age and Historical Remains
	5.2.1 HELENA
	◆ Iron Age remains
9	◆ Historical Remains
	◆ Communal Grinding Stones
14	5.2.2 ST GEORGE
15	6 Evaluation
16	7 Recommendations
	8 Conclusion
17	9 Extracts from the National Heritage Resources Act (Act No. 25 of 1999)
	10 Bibliography
	<b>List of Figures</b>
8	Fig 1. Site 2 – Metal working remains
8	Fig 2. Site 25 – Burnt hut rubble
8	Fig 3. Site 23 – Eiland tradition pottery fragments dating to the 11 <sup>th</sup> century
10	Fig 4. Site 1 – Ruin of homestead
10	Fig 5. Site 1 – Grave in cattle enclosure
11	Fig 6. Site 7 – Circular stone enclosure for small livestock
11	Fig 7. Site 9 – Well-built stone wall enclosure on rock outcrop
12	Fig 8. Site 17 – Communal grinding stone
12	Fig 9. Site 17 – Wall foundation at base of communal grinding stone
13	Fig 10. Site 22 – Rectangular stone wall enclosure
13	Fig 11. Site 22 - Graves
14	Fig 12. Site 29 – Part of communal grinding stone
15	Fig 13. Site 34 – Grinding stone
18	Fig 14. Map

## **EXECUTIVE SUMMARY**

---

Anglo Platinum plans to develop new tailings dams on the farms Helena and St. George. A heritage resources survey of this area has detected a number of significant archaeological and historical sites. The determination of significance is based on criteria explained in the methodology section of the report. These specifically include a number of Middle and Late Iron Age sites, historical ruins and graves.

The development will have an adverse effect on these heritage resources. Little is known of the historical sequence and cultures the area, as is the case with the earliest Pedi occupation. As a result this, these heritage sites also have high scientific value.

After careful consideration, bearing in mind the conservation state of the sites, it is not recommended that any of the archaeological sites be avoided or protected from the development, but instead, it is recommended that phase 2 work be conducted in order to extract sufficient information before they are finally destroyed.

Mitigation with the local community and relevant authorities for the exhumation and relocation of graves that fall within the development area is recommended as part of a social impact assessment.

From a heritage point of view, there is no objection with regard to the development on condition that the recommendations are implemented. This will result in no further significant impacts on the heritage resources through all the developmental phases.

## 1. INTRODUCTION

---

The **Project Proposal** constitutes an activity for which an Environmental Management Programme is required - provided for by paragraph **2.13** of the AIDE – Memoir as a requirement of the Minerals Act, 1991. In addition, the National Heritage Resources Act (Act No. 25 of 1999), protects all archaeological, palaeontological and historical sites and graves, and requires heritage resources impact assessments in terms of Section 38. To satisfy the requirements of the above legislation, a Phase 1 Heritage Impact Assessment (scoping & evaluation) of the proposed mining area was undertaken. In order to comply with legislation, Anglo Platinum requires information on the heritage resources, and their significance that occur in the proposed mining area. This will enable the Der Brochen mine to take pro-active measures to limit the adverse effects that the development could have on such heritage resources.

The author was contracted by SRK Consulting to undertake a Phase 1 *Heritage Impact Assessment* of the demarcated surface area on the farms Helena 6 JT and St George (Refer to map, South Africa 1:50 000 2430 AC), where two separate Tailings dams are proposed. The aim was to determine the presence of heritage resources such as archaeological and historical sites and features, graves and places of religious and cultural significance; to assess the impact of the proposed project on such heritage resources, and to submit appropriate recommendations with regard to the cultural resources management measures that may be required at affected sites / features. Due to the nature of the terrain, the focus was primarily on archaeological remains.

The report thus provides an overview of the heritage resources and gravesites that were detected in or near the proposed Tailings dams area. The significance of the heritage resources was assessed in terms of criteria defined in the methodology section. It is indicated that these resources will be affected by the proposed development and the report recommends mitigation measures that should be implemented to minimise the adverse effect of the proposed mining activities on these heritage resources and graves. The mitigation measures also apply to heritage resources not detected during the survey, but which may be uncovered during excavations, construction of infrastructure and roads, and general mining activities.

## 2. METHODOLOGY

---

### 2.1 Sources of information

The source of information was primarily the field reconnaissance.

A thorough survey of the proposed activity areas was undertaken on foot. Standard archaeological practices for observation were followed. 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 archaeological material were recorded by means of a GPS (Garmin 12). Archaeological material and the general conditions on the terrain were photographed with a KODAK DC120 Digital camera.

### 2.2 Limitations

The foot survey was very thorough and it is unlikely that any significant heritage resources were missed. However, the discovery of previously undetected heritage remains must be reported and may require further mitigation measures.

## 2.3 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. There are many aspects that 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.*

## 2.4 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. In this area the Pietersburg Industry is dominant.
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>
Phase 1 assessments:	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 augur sampling.

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. *Sensitive* may also refer to an entire landscape / area known for its significant heritage remains.

### **3. RELEVANT LEGISLATION**

---

Two sets of legislation are relevant for this study with regard to protection of heritage resources and graves.

#### **3.1 The National Heritage Resources Act (25 of 1999) (NHRA)**

This Act established the South African Heritage Resources Agency (SAHRA) and makes provision for the establishment of Provincial Heritage Resources Authorities (PHRA). The Act makes provision for the undertaking of heritage resources impact assessments for various categories of development as determined by Section 38. It also provides for the grading of heritage resources and the implementation of a three tier level of responsibilities and functions for heritage resources to be undertaken by the State, Provincial authorities and Local authorities, depending on the grade of the Heritage resources. The Act defines cultural significance, archaeological and palaeontological sites and material (Section 35), historical sites and structures (Section 34), graves and burial sites (Section 36) which falls under its jurisdiction. Archaeological sites and material are generally those resources older than a hundred years, while structures and cultural landscapes older than 60 years, including gravestones, are also protected by Section 34. Procedures for managing grave and burial grounds are clearly set out in Section 36 of the NHRA. Graves older than a 100 years are legislated as archaeological sites and must be dealt with accordingly

Section 38 of the NHRA makes provision for *developers to apply for a permit before any heritage resource may be damaged or destroyed.*

#### **3.2 The Human Tissues Act (65 of 1983)**

This Act protects graves younger than 60 years. These fall under the jurisdiction of the National Department of Health and the Provincial Health Departments. Approval for the exhumation and re-burial must be obtained from the relevant Provincial MEC as well as the relevant Local Authorities.

Graves 60 years or older fall under the jurisdiction of the National Heritage Resources Act as well as the Human Tissues Act, 1983

### **4. DESCRIPTION OF THE TERRAIN**

---

The proposed terrain on the farm **Helena** is can be described as a 'plateau' in the mountain where most of the terrain had been ploughed in the recent past. The topsoil is black turf, which is susceptible to erosion. The plough activities have resulted in the formation of a large donga in the central part of the 'plateau'.

The proposed terrain on the farm **St. George** consists of a valley that was cut by a tributary of the Klein Dwars River. This area is generally unspoiled with good vegetation cover.

## 5. ARCHAEOLOGICAL AND HISTORICAL REMAINS (refer to attached map for site numbers)

### 5.1 STONE AGE REMAINS

Surprisingly no significant Stone Age material was found on either of the sites.

**Significance: None.**

### 5.2. IRON AGE AND HISTORICAL REMAINS

#### 5.2.1 HELENA

Most of the terrain on the Helena site has been ploughed. Apart from some Middle Iron Age *Eiland* pottery sherds (11<sup>th</sup> – 13<sup>th</sup> century), all other pottery remains represent the Late Iron Age or early *Pedi* ceramic style. All these sites have, however, been destroyed by the agricultural activities and the two styles are often mixed. Iron smelting debris has also been noted, but we cannot distinguish whether it is of *Eiland* or *Pedi* origin. Grinding stones, both single and communal are found frequently, as does burnt hut rubble. Terracing occurs along the eastern slope of the mountain. These seem to date to the Late Iron Age *Pedi* occupation. There are also numerous historical homesteads and stone walled enclosures, as well as a number of graves.

#### ◆ IRON AGE REMAINS

Iron Age remains were found at the following locations. All are ploughed:

SITE: 2.	S25° 02' 05.0" E30° 05' 44.5"	Metal slag and tuyère fragments in association with <i>Eiland</i> pottery.
11.	S25° 02' 08.8" E30° 05' 43.3"	A concentration of <i>Pedi</i> style pottery fragments.
14.	S25° 02' 17.2" E30° 05' 41.7"	Terracing with high concentrations of pottery fragments.
15.	S25° 02' 22.0" E30° 05' 43.9"	Concentration of pottery fragments.
20.	S25° 02' 23.5" E30° 05' 19.6"	Concentration of pottery fragments. Probably <i>Eiland</i> .
21.	S25° 02' 22.5" E30° 05' 18.5"	Location of half of a bored stone and high concentration of pottery fragments.
23.	S25° 02' 23.5" E30° 05' 19.6"	Concentration of <i>Eiland</i> pottery fragments.
25.	S25° 02' 03.4" E30° 05' 11.1"	Concentration of pottery, hut rubble, metal working debris and a terrace.
26.	S25° 01' 59.5" E30° 05' 15.3"	Concentration of pottery and tuyère pieces.
27.	S25° 02' 12.0" E30° 05' 14.2"	Concentration of pottery fragments.
28.	S25° 02' 07.9" E30° 05' 11.0"	Concentration of pottery, hut rubble, metal working debris and a terrace.

**Significance: Low.** Recording of the cultural landscape and sampling of material is required.



Fig 1. Site 2 - Metal working remains: Tuyère (claypipe) & iron slag



Fig 2. Site 25 - Burnt hut rubble



Fig 3. Site 23 - *Eiland* tradition pottery fragments dating to the 11<sup>th</sup> century AD



#### ◆ HISTORICAL REMAINS

These mainly consist of homestead ruins and stone walled cattle enclosures.

- SITE:**
1. S25° 02' 04.0" E30° 05' 46.1" The site consists of a ruin, stone wall enclosures and a grave of a person with the name of *Sexoptso Saxahunadi Mampond Mohlahlo*.
  3. S25° 01' 58.1" E30° 05' 44.5" Consists of a large rectangular stone wall. The road has been made through the structure.
  4. S25° 01' 55.8" E30° 05' 43.1" A circular stonewall. A communal grinding stone was noted approximately 40m to the northeast.
  5. S25° 01' 51.6" E30° 05' 47.3" A rectangular stone wall enclosure with smaller circular enclosures nearby.
  6. S25° 01' 48.4" E30° 05' 45.9" Stone wall enclosure, including a rectangular one nearby.
  7. S25° 01' 54.3" E30° 05' 40.7" A rectangular stone wall enclosure with a smaller circular enclosures nearby.
  9. S25° 02' 05.0" E30° 05' 38.7" A well built rectangular stone wall enclosure.
  10. S25° 02' 07.2" E30° 05' 41.9" Stonewall enclosure.
  18. S25° 02' 13.0" E30° 05' 31.8" Homestead ruin and stone wall enclosure.
  19. S25° 02' 22.1" E30° 05' 23.4" Stonewall enclosure.
  22. S25° 02' 21.1" E30° 05' 15.0" Homestead ruin with stone wall enclosure and two graves. The graves respectively date 1948 and 1951 and both belong to the Sexopotso family. The historical remains overlie *Eiland* pottery.

**Significance:** Sites 1 and 22 are sensitive because of the graves and have high local significance. The other sites have low significance, but require mitigation to record the cultural landscape.

#### ◆ COMMUNAL GRINDING STONES

12. S25° 02' 14.5" E30° 05' 41.8"
13. S25° 02' 15.0" E30° 05' 40.4"
16. S25° 02' 20.1" E30° 05' 39.7"
17. S25° 02' 21.2" E30° 05' 34.3" in association with stone walling.
24. S25° 02' 21.4" E30° 05' 22.2"

**Significance:** Low, but require mitigation to record the cultural landscape.



Fig 4. Site 1 - Ruin of homestead



Fig 5. Site 1 - Grave in cattle enclosure



Fig 6. Site 7 - Circular stone enclosure for small livestock



Fig 7. Site 9 - Well built stone wall enclosure on rock outcrop



Fig 8. Site 17 - Communal grinding stone



Fig 9. Site 17 - Wall foundation at base of communal grinding stone



Fig 10. Site 22 - Rectangular stone wall enclosure



Fig 11. Site 22 - Graves

### 5.2.2 ST. GEORGE

The proposed tailings dam site on St. George is a narrow valley that broadens out onto the flood plain of the Klein Dwars River where it has rich alluvial soils. This area was intensively cultivated during the pre-colonial period as is evident from the terraces and grinding stones found here.

SITE: 29. S25° 01' 01.6" E30° 04' 27.4", and  
S25° 01' 03.0" E30° 04' 25.7"

This is a unique area of intensive communal grinding. It is located at the foot of the mountain. The two rock surfaces combined contain at least 250 individual grinding hollows. The hollows are relatively small and is consistent with grains smaller than maize – indicating a pre-colonial date. The site also has a concentration of pottery fragments belonging to the early *Pedi* style and hut rubble.



Fig 12. Site 29 - Part of the communal grinding stone

- |     |                               |   |
|-----|-------------------------------|---|
| 30. | S25° 01' 01.5" E30° 04' 27.4" | This is a terraced area and probably associated with site 29 above.                           |
| 31. | S25° 01' 00.2" E30° 04' 35.0" | A dung deposit was noted here indicating a cattle enclosure and therefore village settlement. |
| 32. | S25° 00' 59.3" E30° 04' 39.8" | This is a terraced area containing a grinding stone.  |
| 33. | S25° 00' 57.3" E30° 04' 46.2" | Cultural remains such as pottery and a grinding stone was found here.                         |

34. S25° 00' 58.2" E30° 04' 51.5" Pottery fragments and a grinding stone.



Fig 13. Site 34 - Grinding stone

35. S25° 01' 03.4" E30° 05' 04.0" This is a terraced area containing pottery fragments and grinding stones.
36. S25° 00' 58.1" E30° 05' 12.1" Remains of terracing.
37. S25° 00' 56.4" E30° 04' 41.2" Remains of terracing and pottery.
38. S25° 00' 52.7" E30° 05' 35.5" Remains of terracing.
39. S25° 00' 55.9" E30° 05' 33.1" Remains of pottery and hut rubble was noted at this location which is in a ploughed field.

**Significance:** Site 29 is of high significance and must be protected. Sites 30, 31, 32, 33, 35, 36, 37, and 38 are of low significance, but require mitigation to record the cultural landscape. Test pit excavations may be required at sites 30, 31 and 32

## 6. EVALUATION

The archaeological sites at **Helena** have virtually been destroyed, and have little significance other than to sample the material as surface collections. The historical sites, especially the stone wall enclosures are in a good state. Some may be older than 60 years, thereby being protected by Section 34 of the National Heritage Resources Act [NHRA] (25 of 1999). These sites, as well as the communal grinding stones, need to be

mapped as part of a cultural landscape. The graves are sensitive and it should be determined whether or not any are in the way of the mining development. Should the graves be threatened, the social assessment team must negotiate their re-location with the descendants and relevant authority.

The archaeological sites at St. George are less disturbed. They reflect a settlement pattern and cultural landscape that need to be recorded.

We are, however, of the opinion that the socio-economic benefits of the project outweigh the conservation value of the heritage sites and therefore recommend mitigation measures to allow for their destruction. *From a heritage resources management point of view there is no objection with regard to the development on condition that the recommendations are implemented.*

It must be noted that unmarked graves and burials may occur at the recorded archaeological and historical sites, and that human remains may be exposed during earth works (refer to Extract from the National Heritage Resources Act).

## **7. RECOMMENDATIONS**

---

In view of the above it is recommended:

1. That the cultural landscape, as represented by the *in situ* structural remains of the archaeological and historical features located on the proposed tailings dams sites at both Helena and St. George, be recorded by means of mapping, detail plan drawings and photographic records.
2. That communal grinding site **29** is protected *in situ*.
3. That test pit excavations be undertaken at sites 30, 31 and 32 in order to extract sufficient scientific data with regard to dating and identification of the cultural group
4. That grave sites which may be in the way of mining activities be identified as soon as possible to be dealt with in the social impact assessment and in consultation with the archaeologist when re-location is inevitable.

## **8. CONCLUSION**

---

This study places much emphasis on the structural features, as they are most likely to be threatened by the proposed development. The demarcated areas are rich in archaeological and historical remains dating from the 11<sup>th</sup> century. A general lack of data exists for the Iron Age sequence and culture history of this particular area.

The demarcated areas are regarded as sensitive cultural landscapes with regard to heritage resources. Due to the nature of mining operations and activities, it is highly unlikely that any protection measures could be implemented successfully. These resources will thus eventually deteriorate into oblivion even if the development is relocated away from the sites. We therefore recommend phase 2 recordings of certain sites to capture and extract of sufficient information for a database and to assist in our understanding of the history of the area. This data could be used for educational purposes and a heritage awareness programme at a later stage.

*Should the above-mentioned recommendations be implemented, the impacts of the development on the heritage resources during all phases, i.e. construction, operational, decommissioning and residual impacts after closure, will be negligible.*



**Extracts from:  
The National Heritage Resources Act (Act No. 25 of 1999).**

**Archaeology, palaeontology and meteorites**

Subsection 35. (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 or museum, which must immediately notify such heritage resources authority.

Subsection 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**

Subsection 36. (6) Subject to the provision of any law, any person who in the course of development or any other activity discovers the location of a grave, the existence of which was previously unknown, must immediately cease such activity and report the discovery to the responsible heritage resources authority which must, in co-operation with the South African Police Service and in accordance with regulations of the responsible heritage resources authority-

- (a) carry out an investigation for the purpose of obtaining information on whether or not such grave is protected in terms of this Act or is of significance to any community; and
- (b) if such grave is protected or is of significance, assist any person who or community which is a direct descendant to make arrangements for the exhumation and re-interment of the content of such grave or, in the absence of such person or community, make any such arrangement as it deems fit.

**10. BIBLIOGRAPHY**

---

**Deacon, J.** 1996. *Archaeology for Planners, Developers and Local Authorities*. National Monuments Council. Publication no. P021E.

**Deacon, J.** 1997. *Report: Workshop on Standards for the Assessment of Significance and Research Priorities for Contract Archaeology*. In: Newsletter No 49, Sept 1998. Southern African Association of Archaeologists.

**Evers, T.M. 1988.** *The recognition of Groups in the Iron Age of Southern Africa*. PhD thesis. Johannesburg: University of the Witwatersrand.

**Huffman, T.N. 1980.** *Ceramics, classification and Iron Age entities*. African Studies 39:123-174

**Meyer, A.** 1994. *Navorsingsmetodiek: Inligtingsformate vir Argeologiese Veldwerk*. Dept Antropologie en Argeologie, U.P

Fig 14.

