

**REPORT ON A CULTURAL RESOURCES  
SURVEY FOR THE TWO RIVERS PROJECT,  
DONE ON THE FARM DWARSRIVIER 372KT,  
MPUMALANGA PROVINCE**

**Project no.: 01.06.187**

For:  
Groundwater Consulting Services  
PO Box 2597  
Rivonia  
2128

Report by:  
Anton C. van Vollenhoven BA, BA (Hons), DTO,  
NDM, MA(UP), MA(US), DPhil(UP)  
Anton J. Pelsler, BA, BA(Hons)(UWits)

**Archaetnos CC**  
PO Box 31064  
Wonderboompoort  
0033  
Tel: (012) 335 2117  
083 415 1862  
Fax: (012) 320 2742  
E-mail: [acvv@freemail.absa.co.za](mailto:acvv@freemail.absa.co.za)

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## **SUMMARY**

A survey was done in order to determine the presence, nature, extent and significance of cultural resources at the Two Rivers Platinum project. During the field survey a number of objects and sites were identified.

It is judged that some of these will be impacted upon by the proposed development. Therefore mitigation will be needed, after which development can continue. Appropriate recommendations are put forward in this report.

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## **1. Aims of the survey**

Archaetnos CC was requested by Groundwater Consultation Services to conduct a phase 1 survey of historical and archaeological (cultural) resources on the farm Dwarsrivier 372KT, as part of the Two Rivers Platinum project. The aim of the survey was to identify, locate, document and evaluate sites, objects, structures and features of cultural significance found in three specific areas. These areas are the sites where a dam is to be built, where a conveyor-belt is to be erected and where excavation is currently being undertaken.

## **2. Terms of reference**

The terms of reference for the study were to:

- 2.1 Identify all objects, sites, features and structures of an archaeological or historical nature (cultural resources) located in the area of the proposed development (see appendix B).
- 2.2 Assess the significance of the cultural resources in terms of their historical, social, religious, aesthetic, scientific and tourism value.
- 2.3 Describe the possible impact of the proposed development on these cultural remains, according to a standard set of conventions.
- 2.4 Propose suitable mitigation measures to minimize possible negative impacts on the cultural resources.
- 2.5 Review applicable legislative requirements.

## **3. Conditions and assumptions**

The following aspects have a direct bearing on the survey and the resulting report:

- Cultural resources are all nonphysical and physical human-made occurrences, as well as natural occurrences that are associated with human activity. These include all sites, structures and artifacts of importance, either individually or in groups, in the history, architecture and archaeology of human (cultural) development.
- The significance of the sites and artifacts is determined by means of their historical, social, aesthetic, technological and scientific value in relation to their uniqueness, condition of preservation and research potential. It must be kept in mind that the various aspects are not mutually exclusive, and that the evaluation of any site is done with reference to any number of these.
- Cultural significance is site-specific and relates to the content and context of the site. Sites regarded as having low cultural significance have already been recorded in full and require no further mitigation. Sites with medium cultural significance may or may not require mitigation depending on other factors such as the significance of impact on the site. Sites with a high cultural significance require further mitigation (see appendix A).

- The latitude and longitude of an archaeological site is to be treated as sensitive information by the developer, and should not be disclosed to members of the public.
- All recommendations are made with full cognizance of the relevant legislation, in this case the National Heritage Resources Act (No 25 of 1999) of South Africa.

#### **4. Legislative Requirement**

Aspects concerning the conservation of cultural resources are dealt with mainly in two acts. These are the National Heritage Resources Act (Act 25 of 1999) and the National Environmental Management Act (Act 107 of 1998).

##### **4.1 The National Heritage Resources Act**

According to the above mentioned law The following is protected as cultural heritage resources:

- a. Archaeological artifacts, structures and sites older than 100 years
- b. Ethnographic art objects (e.g. prehistoric rock art) and ethnography
- c. Objects of decorative and visual arts
- d. Military objects, structures and sites older than 75 years
- e. Historical objects, structures and sites older than 60 years
- f. Proclaimed heritage sites
- g. Grave yards and graves older than 60 years
- h. Meteorites and fossils
- i. Objects, structures and sites of scientific or technological value.

The mentioned cultural resources may only be disturbed or moved by an archaeologist and only after a permit has been issued by the South African Heritage Resources Agency (SAHRA).

##### **4.2 The National Environmental Management Act**

This act states that a survey and evaluation of cultural resources must be done in areas where development projects, that will change the face of the environment, will be undertaken. The impact of the development on these resources should be determined and proposals for the mitigation thereof are made.

#### **5. Methodology**

##### **5.1 Survey of literature**

A survey of literature was done in order to review previous research done in this area. Various sources were consulted in this regard (see bibliography).



## 5.2 Field survey

The survey was conducted according to generally accepted archaeological practices. It was concentrated on the three areas indicated by the client. In these areas all natural features such as outcrops, streambeds, erosion trenches and areas with unnatural looking vegetation were investigated. The survey was done on foot to ensure that areas inaccessible to motor vehicles are also covered.

## 5.3 Documentation

All sites, objects features and structures identified were documented according to the general minimum standards accepted by the archaeological profession. Coordinates of individual localities were determined by means of the Global Positioning System (GPS). The information was added to the description in order to facilitate the identification of each locality.

## 5.4 Presentation of the information

In discussing the results of the survey, a chronological rather than a geographical approach was followed in the presentation of an overview of human occupation and land use in the area. This helps the reader to better understand and facilitate the potential impact of the development. Information on the individual objects, sites, features and structures is presented under section 8 of this report.

## 6. Description of the area surveyed

The Two Rivers Platinum project is situated on the farm Dwarsrivier 372 KT, approximately 25 km southwest of the town Steelpoort, in the Lydenburg district, Mpumalanga Province. It is located on map 2430CC, Kennedy's vale, of the South African 1:50 000 topographic series. The farm lies between the following coordinates: 24° 54' – 24° 59'S and 30° 03' – 30° 08'E.

The farm Dwarsrivier is traversed by the Dwarsrivier and the Klein Dwarsrivier. The confluence of these two rivers is also located on the property. The eastern portion of the property generally slopes in a westerly to southwesterly direction, towards the Dwarsrivier. Adjacent to the river, slopes are gentle, but the western portion of the property is very steep and mountainous. The elevation at the Klein Dwarsrivier is 920m and it rises to an elevation of between 1513,6m and 1650m to the west. This is the area where excavations are currently being done. The topography to the east of the Klein Dwarsrivier is gently sloping and then rises suddenly in the south east of the property. The elevation of these hills varies between 1000 and 1200m (Background Information Document: 4). This is the area where the dam is to be built.

The Klein Dwarsrivier divides the farm in an eastern and western area and flows from south to north. This results in a valley between the mountains and it's resulting flood plains. The conveyer belt is to be erected in this area. The area shows indications of being disturbed by the planting of crops at some stage in the past. However currently no crops are cultivated here.

The farm is also drained by the Dwarsrivier, flowing from the southeast to the northwest. The existence of these water sources may have provided a suitable environment for prehistoric people, as water is an important resource for the survival of humans. However the central part of the valley seems to be marshy, which would not have provided a suitable living site.

A number of non-perennial tributaries of both rivers rise in the mountainous areas. One of these, a tributary of the Klein Dwarsrivier clearly becomes a large river during periods of high rainfall, as it has cut into the underlying soil, resulting in extremely deep dongas in the area where the dam is to be built.

Geologically speaking the farm is located in the southern part of the eastern Bushveld Complex. The study area is underlain by lithologies of the Rustenburg layered suite, Critical Zone of the eastern Bushveld Complex. The typical assemblage is that of the Winterveld Norite-Anorthosite Formation. This formation comprises alternating layers of chromitite, pyroxenite, norite and anorthosite. Mafic rocks of the eastern Bushveld Complex, which host the UG2 chromes seam and Merensky Reef, form a roughly north-south belt 180 km long and up to 40 km wide (Background Information Document: 4). The underlying geology provides suitable material for the making of stone tools, therefore providing Stone Age people with suitable living conditions.

The vegetation of the area forms part of Acocks's (1988) Sourish Mixed Bushveld. In more contemporary terms, it would be classified simply as Mixed Bushveld. The area is suggested to contain numerous vascular plant species, restricted to that part of the country and new species are described on a regular basis. Some of the latest includes *Gladiolus sekhukhuniensis* and *Rhoicissus sekhukhuniensis* (Background Information Document: 4). This type of environment probably does not differ much from that in Iron Age times and even during the Late Stone Age. It would have provided suitable living conditions, especially ample building material as well as fuel for household purposes.

The fauna on the farm is dependent on the soil, plant and water resources of the area. It is these basic biophysical resources that afford suitable habitat and food to the range of fauna that exist there. A number of threatened animal species occur within the wilderness habitat of the project area (Background Information Document: 4). During the Survey a Duiker was spotted. As hunting was an important aspect of prehistoric existence, the availability of animals would favor human occupation, especially during the Stone Age.

The climate of the area is described as sub-humid, and can be locally described as normally hot and dry. The area falls within the summer rainfall zone and receives most of its annual rainfall during the period October to March, with a mean annual rainfall of 703mm. Temperature data show that summers are warm with temperatures rarely exceeding 30°C, whilst the winters are mild (Background Information Document: 4). These climatic conditions are suitable for human occupation and might not have differed much in prehistoric times.

Therefore it seems that the area was very suitable for human occupation, especially during the Late Stone and Iron Age.



## 7. Discussion

### 7.1 Stone Age

The Stone Age is the period in human history when lithic material was mainly used to produce tools (Coertze & Coertze 1996: 293). In South Africa the Stone Age can be divided in three periods. It is however important to note that dates are relative and only provide a broad framework for interpretation. The division for the Stone Age according to Korsman & Meyer (1999: 93-94) is as follows:

Early Stone Age (ESA) 2 million – 150 000 years ago

Middle Stone Age (MSA) 150 000 - 30 000 years ago

Late Stone Age (LSA) 40 000 years ago – 1850 A.D.

The Stone Age is well represented in the area. Although no sites were identified, a variety of stone tools dating from the Early Stone Age right through to the Late Stone Age were identified.

One Early Stone Age chopper tool was picked up in the valley alongside the Klein Dwarsrivier. This was a multi purpose tool, mainly used for extracting marrow from bones. Middle Stone Age tools that were found outnumbered the rest. These included cores, scrapers, flakes and blades. It was mostly found in the valley, although some were also found on the mountainous area to the east. Late Stone Age material that was found consisted of cores, broken blades and scrapers. Most of these were also found in the valley.

The tools were made of different kinds of volcanic rock, which is very suitable for making lithic artifacts because of its hardness. Three Late Stone Age tools, a thumbnail scraper, core and core scraper were made of a shiny black rock, that seem to have been brought here from a distant area as it is not similar to the surrounding material. Some of the lithic tools clearly show signs of being exposed to water. Coupled with the fact that clear signs were visible on the surface of water flowing from uphill, it seems as if the tools were mainly washed down from higher up the mountain slopes where there might be Stone Age sites. It is known that rock art sites (probably dating to the Late Stone Age) are found in the mountains. The higher lying areas were however not surveyed as no development is planned there for the near future.

The mountains would certainly have provided ample shelter for Stone Age people. The valley on the other hand would have been an easy hunting ground for these people as migrating animals would easily have been trapped and killed here.

### 7.2 Iron Age

The Iron Age is the name given to the period of human history when metal was mainly used to produce artifacts (Coertze & Coertze 1996: 346). In South Africa it can be divided in two separate phases according to Van der Ryst & Meyer (1999: 96-98), namely:



Early Iron Age (EIA) 200 – 1000 A.D.  
Late Iron Age (LIA) 1000 – 1850 A.D.

The area that was surveyed forms part of the Lydenburg-Steelpoort area, a location known for its Early Iron Age occurrences (Inskeep 1978: 128-132; Phillipson 1985: 171-183; Bergh 1999: 6 ). It however needs to be stated that few Early Iron Age sites were identified. The area more to the south in the direction of Roosenekal is known for its Late Iron Age occurrences and is linked to the Ndzundza Ndebele (Bergh 1999: 7; Personal communication: JCC Pistorius; Bergh 1999: 158).

Iron Age pottery was found scattered around in the total surveyed area. However it was more in abundance in the valley. Most of the potsherds were undecorated, but decorated pieces were found in two instances.

Other typical Iron Age features that were found included grinding stones, hammer and rubbing stones and middens. It however seems as if only one Iron Age site was located.

The vegetation of the area is suitable for the farming communities of the Iron Age, as these people herded livestock and planted different crops. The topography is also suitable for Iron Age settlement.

### 7.3 Historical age

The historical age started when the first people that were able to read and write moved into the area. This would have been in the middle of the 19<sup>th</sup> century when the Voortrekkers of Andries Hendrik Potgieter moved here from further west. On 30 July 1845 he established the town of Andries- Ohrigstad. Historical information further suggests that the area might have been occupied by the Pedi at this stage ( Bergh & Ferreira 1999: 131).

During the 1882-1883 the ZAR government was at war with the Ndzundza Ndebele people of this region (Bergh 1999: 192-195). One of the battles was fought alongside the Dwarsrivier. Remains of Boer fortifications from this war can still be seen in the Roosenekal area (Personal communication: JCC Pistorius).

A number of recent sites belonging to the historical period were identified. This also includes grave sites. Recent artifacts such as old fence poles, fragments of glass and ceramics and bicycle parts were seen throughout the surveyed area. This clearly indicates that the farm was occupied during the historical period.

## 8. Individual description of identified sites

### 8.1 Stone Age

No Stone Age sites were identified, although Stone Age material was found throughout the surveyed area.







Figure 1: Broken lower grinding stone, found at the Iron Age site in the area where the conveyor-belt will be erected.



8.2.2 Site number: 2

Description: Low stone walling and piles of rocks. Decorated potsherds were identified. One Upper grindstone was identified.

Locality: GPS: 24° 57' 09"S  
30° 06' 17"E

North of dirt road in area where dam is to be built.

Discussion: The site seems to be of Late Iron Age origin. As it is a small site it is not very important and may even be associated with the historical sites in the area.

Cultural significance: Low

Significance of impact: Medium

Certainty of prediction: Definite

Recommended management action: None

Legislative requirements: Site may be demolished after consultation with an archaeologist.

8.3 Historical Age

All the sites from this period were found where the dam is to be built.

Site 8.3.1 Site number: 3

Description: Graves

Locality: GPS: 24° 56' 58"S  
30° 06' 08"E

Discussion: Seven graves were identified, two of these with headstones. These are inscribed as follows: Pat Leshaba 1958  
Mmusu Lesaba 24.09.78 (figure 2)

The dates clearly show that these are recent graves, although the unmarked graves may be older.

Cultural significance: High

Significance of impact: Medium

Certainty of prediction: Definite

Recommended management action: **Mitigation is required.** Graves need to be moved in accordance with legislative requirements.

Legislative requirements: As the graves are younger than 60 years the National Heritage Resources Act is not applicable. However the Consultation Ordinance no. 7 of 1925 should be applied. The exhumation and reburial of the individuals are a time consuming and expensive exercise consisting of the following:

Identification

Research

Social consultation (this is seen as the most important aspect as the success of the whole project is influenced by the success of the social consultation)

Authorization

Exhumation

Analysis

Reburial

Reporting



Figure 2: Site no. 3: Recent graves.



### 8.3.2 Site number: 4

Description: Residential site consisting of clay wall ruins, grinding stones and various historical artifacts, such as parts of iron pots, enamel bowls and an iron lock (figure 3). The clay walls of the house have been plastered on the inside and low stone walling are visible adjacent to the house. A rock outcrop close to the house also shows clear signs of being used as a grinding surface (figure 4).

Locality: GPS:       24° 56' 54"S  
                              30° 06' 08"E

Discussion: Although the use of the natural rock as a grinding surface is interesting and might even date to the Iron Age it is not unique. The site shows resemblance to other sites in the area and is therefore not seen as very important.

Cultural significance: Medium

Significance of impact: Medium

Certainty of prediction: Definite

Recommended management action: None

Legislative requirements: Site may be demolished after consultation with an archaeologist.



Figure 3: Clay wall ruins and large lower grinding stone at site no. 4.





Figure 4: Natural rock outcrop at site no. 4 used for grinding purposes.

### 8.3.3 Site number: 5

Description: Farm workers house consisting of two rooms. Build with clay walls and decorated on the inside with mud patterns. One room has a back bench, made out of clay (figure 5).

Locality: GPS:       24° 57' 08"S  
                              30° 06' 39"E

Discussion: The house is similar to the one in 8.3.2. Recent artifacts are found. The site is therefore not seen as very important.

Cultural significance: Low

Significance of impact: Medium

Certainty of prediction: Definite

Recommended management action: None

Legislative requirements: None



Figure 5: Site no. 5: Farm workers house showing back bench in room.

#### 8.3.4 Site number: 6

Description: Graves

Locality: GPS: 24° 57' 09"S  
30° 06' 17"E

Discussion: Six unmarked graves consisting of heaps of sand and stone (figure 6). As the graves are unmarked it might be older than 60 years, meaning that it should be dealt with as archaeological graves under the National Heritage Resources Act.

Cultural significance: High

Significance of impact: Medium

Certainty of prediction: Definite

Recommended management action: **Mitigation is required.** Graves need to be moved in accordance with legislative requirements.

Legislative requirements: The graves need to be excavated after permission has been granted by SAHRA. If they are indeed older than 60 years, the individuals may be reburied. If not, the same process as that indicated at 8.3.1 will be required.



Figure 6: One of the unmarked graves at site no. 6.



### 8.3.5 Site number: 7

Description: Graves

Locality: GPS: 24° 57' 02"S  
30° 06' 20"E

Discussion: Four unmarked graves consisting of heaps of sand and stone similar to those at 8.3.4. It is believed that the graves are older than 60 years, meaning that it should be dealt with as archaeological graves.

Cultural significance: High

Significance of impact: Medium

Certainty of prediction: Definite

Recommended management action: **Mitigation is required.** Graves need to be moved in accordance with legislative requirements.

Legislative requirements: The graves need to be excavated after permission has been granted by SAHRA. If they are indeed older than 60 years, the individuals may be reburied. If not, the same process as that indicated at 8.3.1 will be required.

### 8.3.6 Site number: 8

Description: Grave yard, adjacent to house still occupied by local people.

Locality: GPS: 24° 57' 07"S  
30° 06' 26"E

Discussion: Four graves with headstones (figure 7). Only one has an inscription, namely: Tafola. The inhabitants of the house told us that it is their family members that are buried there. This means that it is recent graves and needs not to be dealt with under the Consultation Ordinance no. 7 of 1925.

Cultural significance: High

Significance of impact: Medium

Certainty of prediction: Definite

Recommended management action: **Mitigation is required.** Graves need to be moved in accordance with legislative requirements.

Legislative requirements: As the graves are younger than 60 years the National Heritage Resources Act is not applicable. However the Consultation Ordinance no. 7 of 1925 should be applied. The exhumation and reburial of

the individuals are a time consuming and expensive exercise consisting of the process indicated at 8.3.1.



Figure 7: Site no. 8: Recent graves.

8.3.7 Site number: 9

Description: Graves

Locality: GPS: 24° 57' 02"S  
30° 06' 12"E

Discussion: Three graves consisting of piles of sand and stone similar to those at 8.3.4. The graves are believed to be older than 60 years.

Cultural significance: High

Significance of impact: Medium

Certainty of prediction: Definite

Recommended management action: **Mitigation is required.** Graves need to be moved in accordance with legislative requirements.

Legislative requirements: The graves need to be excavated after permission has been granted by SAHRA. If they are indeed older than 60 years, the individuals may be reburied. If not, the same process as that indicated at 8.3.1 will be required.

8.3.8 Site number: 10

Description: Grave yard

Locality: GPS: 24° 56' 50"S  
30° 06' 05"E

This is just outside and to the northwest of the area where the dam is to be built.

Discussion: Thirty-three graves of which most are marked. The dates range between 1954 and 1995. The surnames inscribed on the headstones are as follows: Leshaba, Mokabane, Mmadi, Ohlokofetse, Belegkie and Mokuia.

The graves are similar to other marked graves found during the survey. Some graves are unmarked, but because of their association with the marked ones, are also believed to be younger than 60 years.

Cultural significance: High

Significance of impact: Low

Certainty of prediction: Uncertain, as the graves might be close enough to the dam area to be affected.

Recommended management action: It is believed that the building of the dam will not have a significant impact on the grave yard, as it lies outside its



boundaries. If however this do impact upon the site, it should be handled in a similar way as the graveyard in 8.3.1

If not, it is believed that his site could be used for the reburial of all the other graves identified during the survey. This should be kept as an option during the process of social consultation.

Legislative requirements: As the graves are younger than 60 years the National Heritage Resources Act is not applicable. However the Consultation Ordinance no. 7 of 1925 should be applied. The exhumation and reburial of the individuals are a time consuming and expensive exercise consisting of the process indicated at 8.3.1.

## **9. Conclusions and recommendations**

- 9.1 The amount of Stone Age material found during the survey indicates that the area was used by humans since early times. Although no site was identified it is possible that sites are located on the slopes and on top of mountainous areas. Should developments be planned for these in future, an archaeologist should be consulted in order to determine if this is the case and to evaluate any sites according to legislation.
- 9.2 The Iron Age is also represented in the area of the proposed development. The most important of this is the site (no. 1) that was found in the area where the conveyor belt is to be erected. This site needs to be mitigated. Archaeological excavation is necessary in order to determine the extent and date thereof and to increase the ceramic sample for comparative purposes. After such an archaeological investigation the site may be demolished.
- 9.3 The developer should be on the look out for similar signs of Iron Age occupation as the density of the vegetation made it impossible during the survey to be certain that everything of cultural importance was spotted. Bearing this in mind, areas where the vegetation shows signs of being disturbed and where Candelabra (Naboom) trees grow should especially be handled with caution.
- 9.4 Other signs of Iron Age settlement do not seem to be important. Therefore sit no. 2 may be demolished. In this case the cultural material such as grinding stones may be removed and used in a museum for educational purposes. This is also applicable to all the cultural material from other sites that will be covered by the proposed dam.
- 9.5 All grave sites should be handled according to the legislative requirements indicated at each under section 8 of this report. Although the significance of impact in these cases are shown as medium, it should be considered as no-go areas until the necessary authorization and social consultation has been addressed. Mitigation is required in order to reduce the impact on these. The social consultation is a necessary step before any excavation of recent graves may be considered. The Department of Anatomy of the University of Pretoria specializes

in this kind of excavation and follows the process mentioned in 8.3.1. The contact person is Koen Nienaber at 012 319 2236.

9.6 The residential sites (no. 4 and 5) may be demolished as it has already been documented during this survey. This will serve as a record of these features and what it's meaning are.

9.7 Local people are still residing in the area where the dam is to be built. Social consultation is therefore necessary, as these people need to be moved. This however may form part of the social consultation associated with the grave sites. Part of this process will also be consultation with Chief Lengwai II of the Masha community who has land claims on the property. Social consultation is done by miss. Inge Wassermann of the Department of Anthropology and Archaeology at the University of Pretoria. She can be contacted at 012 420 2595.

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## Appendix A

### Significance of impact:

- Low where the impact will not have an influence on or require to be significantly accommodated in the project design
- Medium where the impact could have an influence, which will require modification of the project design or alternative mitigation
- High where it would have a “no-go: implication on the project regardless of any mitigation

### Certainty of prediction:

- Definite: More than 90% sure of a particular fact. Substantial supportive data to verify assessment.
- Probable: Over 70% sure of a particular fact, or of the likelihood of that impact occurring.
- Possible: Only over 40% sure of a particular fact, or of the likelihood of an impact occurring.
- Uncertain: Less than 40% sure of a particular fact, or the likelihood of an impact occurring.



## **Appendix B**

### Definition of terms:

**Site:** A large place with extensive structures and related cultural objects. It can also be a large assemblage of cultural artifacts, found on a single location.

**Structure:** A permanent building found in isolation or which forms a site in conjunction with other structures.

**Feature:** A coincidental find of movable cultural objects.

**Object:** Artifact (cultural object).

(Also see Knudson 1978: 20.)