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Anglo Platinum (Pty) Ltd

**Scoping study for the proposed Water Supply Pipeline to the Planned
Twickenham Hackney Pachaskraal Platinum Mine**

**ARCHAEOLOGICAL SURVEY OF THE THP PLATINUM MINE
WATER PIPELINE**

A Phase-1 report prepared for SRK Consulting

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ARCHAEOLOGICAL SURVEY OF THE THP PLATINUM MINE WATER PIPELINE

EXECUTIVE SUMMARY

Seven Iron Age sites occur along the proposed pipeline route. The sites date to the first phase of the Early Iron Age (AD 400-700) in the area, the second phase (AD 700-900) and the Middle Iron Age (AD 900-1300) as well as the Late Iron Age / Historic Period (AD 1780-1900). Representatives of each phase require mitigation. No new graves were noted.

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INTRODUCTION

Anglo-Platinum plans to construct a water pipeline from the main Lebelelo Supply Scheme to the Twickenham Hackney Pashaskraal (THP) Platinum Mine in the Northern Province. The pipeline will be about 9.7km long and buried. SRK Consulting - the environmental coordinators for the project - commissioned Archaeological Resources Management (ARM) to determine and evaluate the status and importance of archaeological and cultural resources in a 50m corridor centred on the proposed pipeline, and to assess the impacts of the pipeline on the resources. In addition ARM must propose appropriate mitigation measures and ensure that legal requirements for the protection of cultural resources have been met.

METHOD

Two ARM staff visited the area on 4 October 2001. They examined the entire pipeline route on foot in the company of Mr Rabotho Mathbatha of Naledi Development. SRK supplied the team with a 1:15 000 orthophoto map and GPS co-ordinates of points along the pipeline. The six points began at the reservoir and ended at the R37. All sites were recorded with a GPS instrument and then transferred to the 1:50 000 map 2430 AC Mecklenburg (second edition).

The significance of an archaeological site is based on the amount of deposit, the integrity of the context (that is primary versus secondary context), the kind of deposit and the potential to help answer present research questions. Sites are ranked into four categories of significance: none, low, medium and high. Sites with no significance do not require mitigation; low to medium may require mitigation; while sites with high significance should not be disturbed at all.

RESULTS

Several sites were found along the route, dating from the Earlier Stone Age through the Iron Age to the Historic Period (Figure 1). We report these sites according to their age.

Earlier Stone Age (ESA) – 1 million to 250 000 years ago

A few ESA artefacts such as bifaces and large flakes occurred in two places. The first (24 26 37.6S 30 04 55E) was a gravel and calcrete lense next to the present-day Matadi stream. The second (24 24 20.5S 30 01 35.7E) lay on the eroded surface near the proposed reservoir on the side of Twickenham Hill.

Significance

- The ESA finds have no archaeological significance.

Middle Stone Age (MSA) – 250 000 to 25 000 years ago

The occasional MSA artefact such as triangular points lay scattered around most stream channels. The only cluster (24 24 30S 30 01 52E), however, occurred near a fountain in the stream bed below Twickenham reservoir. This cluster lies outside the proposed route of the pipeline.

Significance

- The MSA artefacts on the pipeline route have no significance.
- The MSA cluster has low significance and will not be affected by the pipeline.

Early Iron Age (EIA) – AD 400 to 900

EIA pottery occurred in several places along the proposed route. The first (24 26 38.6S 30 04 47.9E) lay in the flat plateau between the Matadi and Moopetsi streams. Agricultural activities over the years have uncovered broken pottery and grindstones marking an old agricultural settlement. Decorations on the pottery suggest the settlement dates to the first (AD 400 to 700) or the second phase (AD 700 to 900). Various features such as buried grain pits may well lie relatively undisturbed below the surface.

A large EIA complex (24 26 39.5 – 42S 30 03 36 – 42E) lay immediately west of Diobeleng village. At least three ancient cattle kraals are marked by mounds of white dung (Figure 2). The pottery clearly dates to the second phase (Figure 3) and specifically to the Doornkop facies (see Evers 1981 & 1988). This village horizon lies underneath an Historic Pedi settlement marked by numerous maize grindstones (maize was introduced after AD 1750). A few other fragments (Figure 4) suggest that an older component dating to the first phase of the EIA may also be present (see Klapwijk and Huffman 1996).

Two other Doornkop ceramic clusters (24 25 54.5S 30 02 44.8E and 24 25 50S 30 02 41.8E) were noted in the ploughed fields west of Dikgopeng Village.

Significance

- The large Doornkop complex next to Diobeleng Village has medium significance.
- All other second phase sites have low significance.

Middle Iron Age (MIA) – AD 900 to 1300

Agricultural activities have exposed an extensive MIA site (24 26 47.4S 30 04 33E) between the Matadi and Moopetsi streams near point 5 on the pipeline route. The pottery is known as Eiland (see Evers 1981). The site probably stretches for 100m to the east.

Significance

- The MIA Eiland site has medium significance.

Late Iron Age (LIA) / Historic Period – AD 1780 to 1900

The remains of a few settlements occupied by Historic Pedi occur in the project area.

The most extensive deposit (24 26 49S 30 04 29E) on the route lay near point 5.

Typical Pedi pottery (see Huffman 1980) and large maize grindstones characterize the deposit.

Significance

- The LIA / Historic Pedi site near point 5 has low significance.

Graves

The assessment for the THP Platinum Mine (Schoeman and Van Doornum 2001)

noted a few historic graves. No further graves were found along the pipeline route.

DISCUSSION

Archaeological resources are non-renewable, and their original context is particularly important. As a result, the National Heritage Resources Act (Act No 25 of 1999) protects the remains of human action, such as artefacts, graves, structures and settlements, older than 100 years.

In terms of the Act, developers need a permit to alter, excavate or otherwise disturb archaeological resources.

The pipe trench will totally destroy any archaeological resources in its direct path, and the impact will be permanent. It is therefore necessary to consider the nature of the resources. First, Iron Age homesteads average some 80m in diameter. There are at least three homesteads in the Early Iron Age Doornkop complex and possibly more. Consequently, the community was relatively large, and realigning the route will serve no purpose.

Secondly, within each homestead an arc of houses and grainbins – the residential zone associated with women - surrounded a cattle kraal and male domain. Men and high status women were buried in the kraal, while other women and children were buried in the residential zone. The homestead was thus a cemetery, and the pipe trench may well expose human burials.

On the other hand, if one considers all burials, middens, animal kraals, houses, storage pits and grain bins, then only about 20% of any homestead contains features: the rest is open space. Thus, it is not possible to predict the location of burials except those somewhere in the cattle kraal. The proposed route appears to transect one visible kraal in the Early Iron Age complex and is close to a likely kraal in the Middle Iron Age site.

The nature of the important archaeological resources and the nature of the pipeline project mean that special mitigation measures must be considered.

RECOMMENDATIONS

Because of the distances involved, it is not feasible for archaeologists to excavate the sites before development begins. Instead, archaeologists should be present when the pipeline trench is excavated between points 3 and 5 and between the Motse and Matadi streams. They should record all archaeological features exposed in the pipeline trench. The record can be made after the trench has been completed in that area, except in the case of human burials. Human burials should be removed only by archaeologists. Thus it will be important to coordinate activities to avoid disrupting pipeline construction.

In addition to monitoring, archaeologists should excavate trial trenches into at least three sites: the EIA Doornkop complex; the MIA Eiland site; and the LIA/Historic site near point 5. The detailed stratigraphy in these excavations will establish the context of features exposed in the pipeline trench.

The South African Heritage Resources Agency has not yet determined a firm policy on graves too old to establish descendants. We suggest that community representatives should voice their opinions on this issue. From the viewpoint of the archaeologists, we would like to have the remains studied, and then kept in the collections of a reputable institution.

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Figure 2A. Exposed dung mounds in the Early Iron Age Doornkop complex: mound one in the foreground and mound two next to the pylon.



Figure 2B. Exposed cattle dung next to the pylon in the Early Iron Age Doornkop complex.

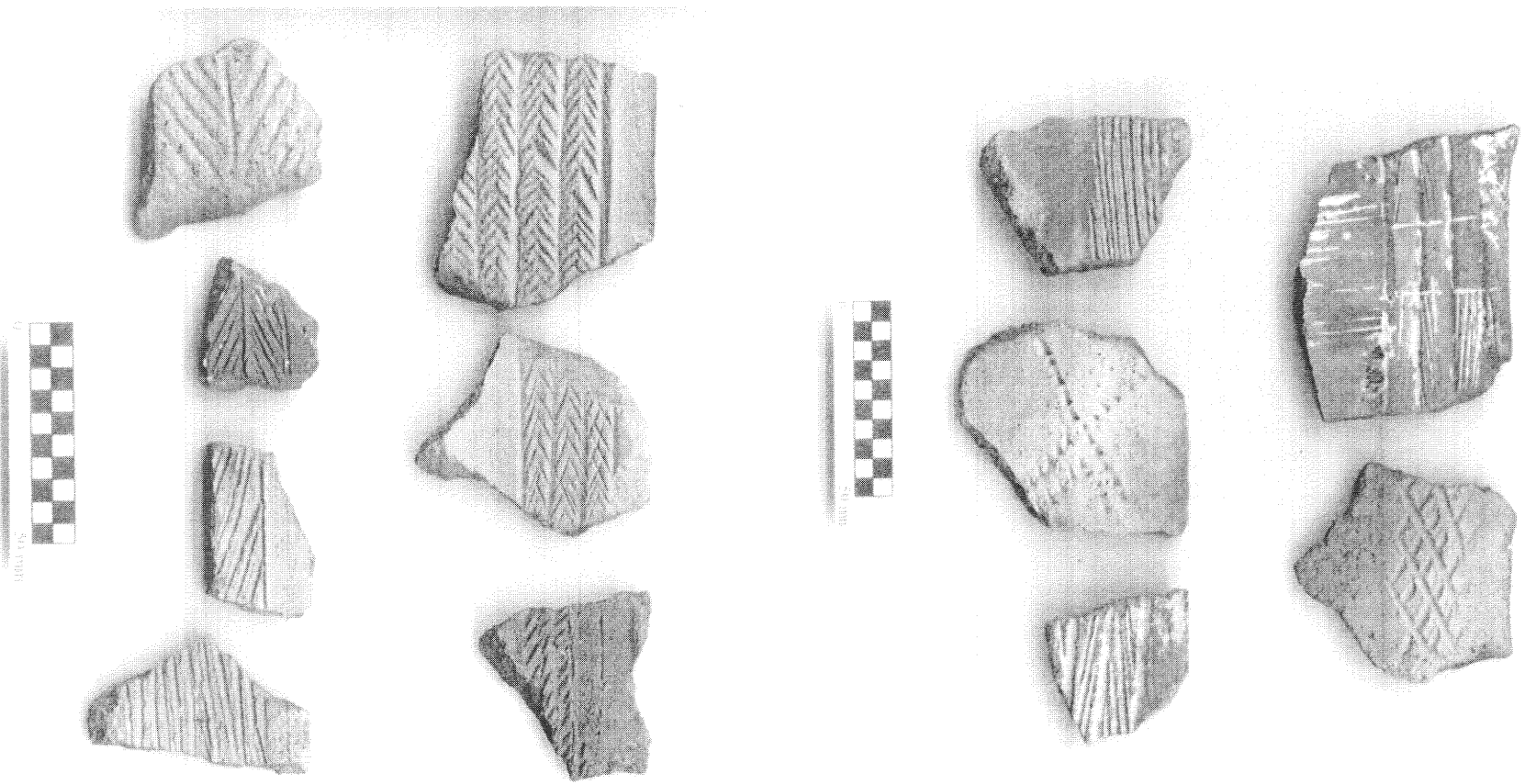


Figure 3. Typical Doornkop pottery associated with mounds one (above) and two (below) in the Early Iron Age complex.



Figure 4. Phase one Early Iron Age pottery, metal slag and shell beads from the Early Iron Age Doornkop complex.