

**ARCHAEOLOGICAL ASSESSMENT OF THE DER BROCHEN  
PROJECT, MPUMALANGA**

A phase-1 report prepared for SRK Consulting

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February 2002

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## **INTRODUCTION**

Anglo Platinum intends to mine the Platinum group of metals in the Groot Dwarsrivier Valley in the Lydenburg District of Mpumalanga. The project includes a shaft, a waste rock dump and processing plant on the farm Helena, a second shaft and waste rock dump on Der Brochen, a third shaft and waste rock dump on Booyensdal, a fourth shaft and waste rock dump site on Buttonslope, and a tailings dam on Maresburg. The development also includes new roads, road improvements and overhead powerlines.

As part of the Environmental Management Programme Report, SRK - the environmental coordinators - appointed Archaeological Resources Management (ARM). It was ARM's task to determine the significance of archaeological and historical sites within the study area.

## **METHOD**

Two ARM staff investigated the study area from the 5<sup>th</sup> to the 8<sup>th</sup> February 2002. The investigation began with an on-site briefing with staff from SRK (led by Mr J de Beer) and Mr T Richardson of Anglo Platinum. The ARM team then examined on foot the proposed shafts, waste rock dumps and tailings dam. Sites were first recorded with a GPS instrument (coordinates given under RESULTS), marked on 1:7 500 orthophotos supplied by SRK and then transferred to the 1:50 000 map 2530 AA Draaikraal (Figure 1). The survey for sites constitutes a phase-1 investigation. Phase 2 investigations come later and involve the test excavation of selected sites.

The significance of an archaeological site is based on the amount of deposit, integrity (that is primary versus secondary context), kind of deposit (e.g. middens, burnt structures, furnaces) and the potential to help answer present research questions. Sites are ranked into four

categories of significance: none, low, moderate 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.

Sites were identified according to the following scheme:

#### Contemporary

Material remains resulting from recent human activity, which is still in progress, including artefacts, human skeletons and structures.

#### Historic

Material remains resulting from human activity dating after AD 1850, but no longer in use, including artefacts, human skeletons and structures.

#### Iron Age

Material remains dating to the last 2000 years associated with Bantu-speaking people. The Iron Age way of life included the cultivation of sorghum and millets, the raising of domestic livestock and the production of metal items. Iron Age people lived in settled communities that encompassed pole-and-daga (a mixture of mud and dung) houses and grainbins, livestock kraals and underground storage pits. Different groups are recognized by their different ceramic decoration styles.

#### Middle Stone Age

Material remains resulting from human activity from ca 250 000 to 25 000 years ago. The Middle Stone Age is associated first with archaic *Homo sapiens* and later *Homo sapiens sapiens*. Material culture includes stone tools with prepared platforms and stone tools attached to wooden handles. Some of these hafted tools were used as spears for hunting.

## RESULTS

The ARM team recorded 25 sites or occurrences, ranging from the Middle Stone Age to the Iron Age and Historic Pedi.

### *Mareesburg Tailings Dam*

A few Middle Stone Age artefacts lie widely scattered across the lower section where calcrete is now exposed. Triangular flakes, a blade and weathered core were noted, each 50 to 100 m apart.

Historic homesteads with low lapa walls, maize grindstones and Pedi pottery lie on the upper slopes on relatively flat cleared areas (Site 1: 25 00 46S 30 08 57.8E). One area with maize grindstones just beyond the northwest boundary also yielded Iron Age pottery and some iron slag (Site 2: 25 00 23.9S 30 08 49.9E). There was insufficient pottery to identify the group.

A small Contemporary graveyard stands inside the southeast section (Site 3: 25 01 02S 30 09 00.4E). Stone piles mark three graves; one has a headstone with a date of 1978. The graveyard lies above a complex of recent Historic homesteads (Site 4: 25 01 00.2S 30 08 48.2E) that were probably associated.

### Significance

- The Middle Stone Age artefacts do not form a site and therefore have no significance.
- The Historic homesteads (Sites 1 & 4) are recent and well-recorded in the anthropological literature. They have no significance.
- There are better Iron Age sites in the near vicinity, and Site 2 has no significance.
- The graveyard (Site 3) has moderate significance.

### ***Helena Shaft, Processing Plant and Waste Rock Dump***

One Contemporary African graveyard exists just outside the southern boundary of the proposed dump (Site 5: 25 01 19.8S 30 06 44E). There are at least 5 graves; 2 adults and 3 children (Figure 2). This graveyard is most probably associated with ruined homesteads in the near vicinity.

The remains of recent Historic homesteads extend along the upper slopes on the western boundary of the Helena complex. Low lapa walls, maize grindstones, metal and Pedi pottery are common (Site 6: 25 01 15.5S 30 06 44.5E; Site 7: 25 01 13.7S 30 06 40.6E; Site 9: 25 01 04S 30 06 45.4E; Site 10: 25 00 59.7S 30 06 47E; Site 11: 30 00 53.8S 25 06 43.1E; and Site 12: 30 00 43.5S 25 06 45.5E). One stone-walled kraal (Site 8: 25 01 10.7S 30 06 42.9E) was part of one complex, and there was a considerable amount of burnt daga at another (Site 13: 25 00 58 to 56S 30 06 47.1E).

The homestead remains extend across onto Thorncliff up to the present-day shed (Site 14: 25 00 25.8S 30 06 27E; Site 15: 25 00 26 to 18.8S 30 06 31.5 to 35.9E).

Extensive daga and characteristic herringbone pottery mark an Eiland (AD 1000 to 1300) Iron Age site (Site 16: 25 00 10.3 to 11.2S 30 06 46 to 42E). Another daga concentration lies near the shed (Site 17: 25 00 06S 30 06 50E).

#### **Significance**

- Although the graves (Site 5) lie outside the dump, they have moderate significance and should be noted by the mine.
- The recent Historic homesteads (Sites 6 to 15) have low significance.
- The Eiland site (Site 16) has moderate significance.

### ***Der Brochen Shaft and Waste Rock Dump***

The remains of recent Historic homesteads are once again marked by low stone lines, graveyards and pottery. One cluster (Site 18: 25 02 13.2 to 11.8S 30 06 54 to 53.2E) lies opposite the present Helena farm house, and another (Site 19: 25 02 29.3S 30 06 59.7E) is next to the road on the edge of the dump area. This complex appears on the 1971 First Edition of map 2530AA Draaikraal.

One homestead in this second cluster (near pole HE20) contains a single child's grave inside an older house foundation (Site 19A: 25 02 33S 30 06 56.8E). A further five headstones have been set against a tree: they bear 1970s dates (Figure 3). Presumably, the skeletal remains themselves were taken with the people when they moved away.

A third homestead cluster (Site 20) must have once stood in the Der Brochen Shaft area, but the ground has been seriously disturbed, probably when the Der Brochen dam was built, and little now remains.

#### **Significance**

- The recent Historic homesteads (Sites 18 to 20) have no significance.
- The child's grave (Site 19A) has low significance.

### ***Booysendal Shaft and Waste Rock Dump***

Further remains of recent Historic homesteads lie in the dump (Site 21: 25 04 50.7S 30 07 07.4E) and shaft (Site 22: 25 05 38.3S 30 07 18.1E) areas. The shaft site includes a stone-walled kraal just south of the Booysendal fence, and a few rock engravings just north of the fence (Site 22A: 25 05 31.9S 30 07 20E). These engravings include people and geometric shapes (Figure 4) and are probably recent.

The recent remains in the dump area (Site 21) lie on top of a Middle Iron Age Eiland smelting

site. In addition to characteristic pottery, iron slag and clay blow pipes mark more than one smelting area. One furnace fragment and a few Middle Stone Age artefacts were also noted. This area may have been chosen as a smelting site because of its seclusion and the dramatic waterfall.

#### Significance

- The recent Historic homesteads (Sites 21 & 22) have no significance.
- The Eiland smelting site (Site 21) has moderate significance.
- The unusual rock engravings (Site 22A) have low significance.

#### ***Buttonshope Shaft and Waste Rock Dump***

The ARM team was not able to investigate the shaft area on foot because of a storm, but it could be seen from the dump area. A recent Historic homestead cluster, associated fields and roads were visible on the northern edge of the shaft area (Site 23). Some of the buildings appear on the First Edition of 2530AA. No artefacts were noted in the dump area.

To reach the Buttonshope complex, the team crossed over two Middle Iron Age Eiland villages with burnt daga (Site 24: 25 06 59.3S 30 07 26.2E; and Site 25: 25 07 12.9S 30 07 18.6E). Both villages were located in relatively flat areas next to the confluences of small streams and the Groot Dwarsrivier. Presumably other small patches of cultivatable soil also supported Eiland villages.

#### Significance

- The recent Historic homesteads in the shaft area (Site 23) have no significance.
- The Eiland sites (Sites 24 & 25) lie outside the development area.

### **RECOMMENDATIONS**

The graveyards that lie near the boundaries of designated development areas need to be

fenced to ensure their protection. These include the cemeteries near the Helena dump (Site 5) and the Der Brochen dump (Site 19A). The cemetery at Site 3 will have to be moved. The social team therefore needs to trace the descendents and negotiate the removal and reburial.

If the Thorncliff alternative is chosen, then the Eiland village (Site 16) needs to be test excavated by archaeologists: the burnt daga structures show that much deposit is *in situ*, and it will be possible to reconstruct the village layout. Similarly, the Eiland smelting site (Site 22) next to the waterfall in the Booyensdal dump areas also needs to be excavated. Smelting sites of this period are rare, and they have not been excavated before: this site is therefore of archaeological importance. One week of excavation and one week of laboratory work at the smelting site, and two weeks each of excavation and laboratory work at the village site will be sufficient. The excavations need to be conducted in the dry season.

The rock engravings (Site 22A) occur on isolated boulders. Because of their unusualness, it would be appropriate to move them further upslope above the line of the conveyor belt. Archaeologists should map their positions relative to each other, and then the pattern can be reconstructed on the new spot.

In addition, further reconnaissance should be conducted along the roadway between Booyensdal and Buttonslope once the centre line has been demarcated on the ground. Given the number of Eiland villages in the valley, the new road could damage other sites not recorded in the present survey. If Eiland villages are found in the roadway area, and they have burnt daga structures, their significance will be moderate. They will therefore require excavation.

Thus, no archaeological or historical sites with high significance were found within the designated area; and so, no project component needs to be relocated for archaeological reasons. If, however, important remains, such as human burials, are encountered during earthwork operation, work should cease in that area, and archaeologists or the South African Heritage Resources Agency should be notified. With this provision, there are no

archaeological or historical reasons why the development should not take place.