

ARCHAEOLOGICAL MITIGATION FOR PROJECT LION

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ABSTRACT

Mitigation measures for a new mine development in the Steelpoort valley concentrated on an Early Iron Age Doornkop village and a Late Iron Age Icon furnace. The early village yielded the remains of cattle kraals, middens and storage pits, as well as a Zhizo series glass bead. Most of the furnace walls had disappeared, but the outline of the base still remained.

INTRODUCTION

Xstrata South Africa and Xstrata Alloys intend to develop a portion of the farm Spitskop 333KT adjacent to their Vantech Mine near Steelpoort. The Vantech complex includes a magnetite plant, and mine, while the new development (Project Lion) will include a smelter, slimes dam, power line and associated roads network.

Archaeological Resources Management (ARM) identified two archaeological sites worthy of mitigation during the Phase I survey (Huffman & Schoeman 2004). The two sites both dated to the Iron Age: Site 1 belonged to the Doornkop facies (AD 650-950) of the Early Iron Age and represented a large village; Site 10, on the other hand, marked an iron furnace dating to the Icon facies (AD 1300-1500) of the Late Iron Age.

An ARM team investigated both sites in October 2004. Later, ARM examined an area for historic graves (Huffman 2005) and then documented several features uncovered during mining developments. This report presents the results of both sessions. As a Phase II report, the results include a description of the excavations and features and a minimum analysis of the finds. This documentation will enable future research.

SITE 1 (2430 CC 4) DOORKOP

Site 1 lay at the base of an ironstone hill on the farm Spitskop 333 KT (Fig. 1). It covered about 900m² (24 49 13S 30 07 09E) between two small streams that flowed north into the Steelpoort River. Three trenches were excavated in this area (Fig. 2), and most deposit was sieved.

Excavations

Trench 1 was 2 x 8 m long, divided into 2 m squares (Fig. 3). It was placed over what appeared to be the

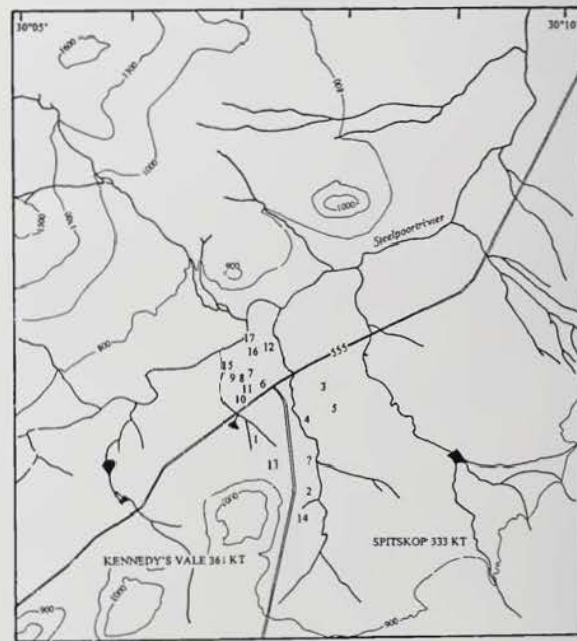


Fig. 1. Archaeological and historical sites recorded in the surveys.

collapsed remains of a raised daga feature exposed in a graded road. The soil was highly compacted. We abandoned this area after other trenches showed that the top 30 cm was completely disturbed.

One find was nevertheless noteworthy. A small (20 x 20 mm), heavily patinated blue glass bead was trapped in a daga patch in Square D, level 1. The bead belongs to the Zhizo series and dates to between AD 750 and 950 (M Wood, pers comm. 2005).

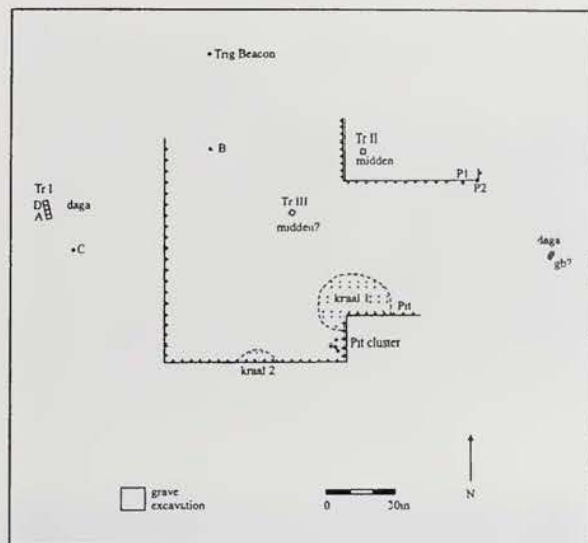


Fig. 2. Plan of Site 1 (2430 CC4).



Fig. 3. Site 1: Trench I, looking north.



Fig. 4. Site 1: Trench I, looking south.

Trench II was a 2 x 2 m square placed over a high concentration of ceramics (Fig. 4). The team began the excavation in 10 cm levels. The top 30 cm (silty brown) had

been completely disturbed through previous agricultural activities (Fig. 5A). Underneath the disturbed zone (levels 1-3) laid a grey ashy area that marked the remains of a midden (level 3 ash) traversed by an animal burrow (Fig. 5B). Mottled red soil below formed the substrate.

Trench II yielded a variety of artefacts in addition to ceramics, including daga lumps, bone points, shell beads (ostrich & fresh water mussel), a cow mandible, stone beads and metal items (Table 1).

Trench III was a 2 x 2 m square dug into another concentration a few metres away (Fig. 6). Here the stratigraphy comprised 22 to 24 cm of mottled brown soil created by agricultural activities that used a bulldozer: teeth

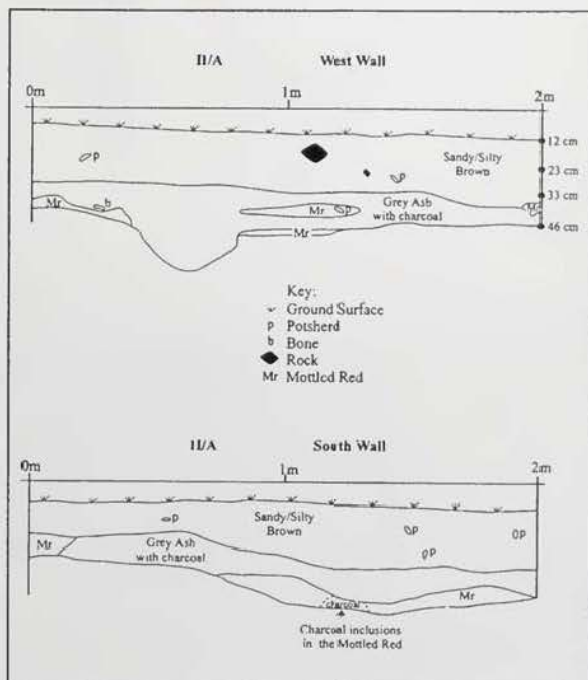


Fig. 5a. Site 1: cross section of Trench II.



Fig. 5a. Site 1: Trench II., grey ashy area marks the remains of a midden traversed by an animal burrow.

		pottery		clay	beads	bone	metal	Stone flakes	misc
	rims	dec	plain						
Level 1	35	132	660	3 daga 4 figs	18 oes 24 shell 1 stone	152	1 1 razor	2	
2	24	138	601	5 daga	12 oes 40 shell 1 stone	179 5 pts	2 beads 1 bangle	2	
3	6	40	245	1 daga	7 oes 16 shell	49 1 pt		2	
3 ash	13	68	286	16 daga 3 figs 1 ball	15 oes 17 shell	281			1 clay roll 1 cow mandible

marks were clearly visible at this depth. Underneath was a 1-5 cm layer of grey ash representing the remnants of the village deposit.

Grave Area

After the initial mitigation, various members of the local community identified grave sites in the general vicinity of Site 1. The Mine knew of a least one graveyard against the hillside, well away from the impact zone, but another area, near Trench 1, was not recognized previously. Consequently, the Mine fenced the area and commissioned ARM to search for historic graves.

ARM investigated the area on the 25th and 26th of April, 2005. A local company supplied six workers, and the Mine supplied a small earthmoving machine (Fig. 7). The team first removed the brown topsoil in a 2 x 5 m area inside the 11 x 11 m designated area. The front-end loader removed the remaining soil, and the team then shovelled away the loose debris.

The topsoil averaged 17 to 25 cm below the present surface. It lay directly on top of decomposing bedrock without any sign of the Early Iron Age village horizon. Furthermore, there was no evidence of historic graves.

Features

Fortunately, excavations for the new mine plant north of the grave area uncovered a number of features associated with the older village (Fig. 8). Two pits, about 6 m apart, were exposed in the side of a cutting (Fig. 9). Pit 1 was 50-60 cm wide; it extended to about 80 cm beneath the 30 cm black agricultural horizon. A large Doornkop jar (Fig. 10) sat upside down near the bottom, under a bowl. Cow skull fragments were in the bowl, while a large rib and another jar rim lay inside the large jar. Pit 2 was about 1 m wide, and about 60 cm extended beneath some 35 cm of disturbed soil (Fig. 11). About one half was excavated. A khaki coloured deposit at the bottom showed that the pit had been originally lined with cattle dung. It contained part of a cow maxilla, daga, a few large stones and Doornkop pottery (4 rims, 12 decorated and 61 plain).

Several other pits were associated with a cattle kraal about 40 m to the south. Kraal 1, marked by light coloured



Fig. 6. Site 1. Trench III.



Fig. 7. Site 1.: grave area.

soil with white patches, contained one pit (filled with dung) near the eastern margin and a cluster of four more on the south side. Each contained typical Doornkop pottery (Fig. 12); they were not excavated. Another light-coloured lenses, 15 to 25 cm thick, marked the location of a second kraal about 20 m away. Soil samples were collected for future analysis.

Preliminary Discussion

Dung-lined storage pits in or near a cattle kraal are a



Fig. 8. Site 1: plant area, looking southwest.



Fig. 9. Site 1: Pit 1 (right), Pit 2 left.

feature of the Central Cattle Pattern (Huffman 1982). Houses and grain bins would have surrounded this inner core. If the daga in Trench I lay near its original location, then it was probably part of the outer residential zone. The midden in Trench II also probably formed at the back of the homestead, near the grain bins. Although investigations were limited, the homestead marked by kraals 1 and 2 appears to have been particularly large.

Although the excavations did not yield carbonised grains, the type of grindstones on site show that the villagers cultivated sorghums and millets. Indeed, the settlement was probably positioned to take advantage of the

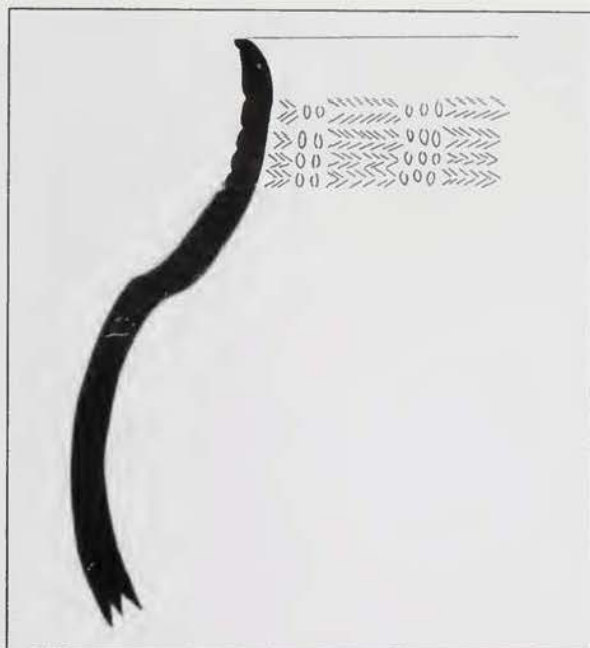


Fig. 10. Jar from Pit 1.



Fig. 11. Site 1: Pit 2.

cultivable alluvial and colluvial soils derived from the surrounding hills.

Finally, the glass bead must surely be associated with the Early Iron Age village even though the top 30 cm of deposit had been disturbed. Except for an historic Pedi homestead near the stream on the eastern margin of the site, only Doornkop pottery is present, and the bead series dates to the same period. The bead itself was probably an import from Southeast Asia (Wood 2005).

SITE 10 (2430 CC 13) ICON

Several sites north of the R555 contained Icon pottery. Slag, tuyeres and other furnace debris lay exposed in Site 10 (24.48.46 S; 30.06.59.3 E). The ARM team placed three 2 x 2 m squares over the concentration, and excavated



Fig. 12. Site 1: *Doornkop* pottery from pit cluster next kraal 1.

Square A, half of A2 and C (Fig. 13). The concentration formed one level of red brown soil, varying from 8 to 14 cm below the surface. Mottled red soil with small calcium nodules formed the substrate. All material was sieved. Finds included Icon pottery (Fig. 14), slag, tuyeres ore and furnace debris (Table 2).

In addition to the debris, all that remained of the furnace was an oval about 75 cm long, orientated east/west, with a 30 cm extension to the east (Fig 15). The bottom sat at about 25 cm below the present surface, and the shallow depression contained highly vitrified slag. Samples were retained for future analysis.

Table 2. Artefacts from Site 10.

	pottery				Smelting debris		Stone flakes	other
	rims	dec	plain	daga	slag	tuyeres		
Level 1A	2	1	37	8	621	3		1 Cu bangle
1A2	1		13	3	468			4 ore
1C		5	50		103	1	2	5 ore



Fig. 13. Site 10, looking northwest.



Fig. 14. Site 10: *Icon* pottery from furnace area.

Preliminary Discussion

This furnace was most probably associated with the Icon homesteads in the near vicinity. It was common practice in the past to smelt metals outside the settlement, and Site 10 conforms to this pattern.

This is the first recorded furnace dating to the Icon period, and so the excavation was important. Unfortunately, little remained to reconstruct the furnace. Presumably, an outer wall about 50 cm high helped to form an oven where a reducing atmosphere could be created in temperatures up to 1500° C (see Miller 2002).

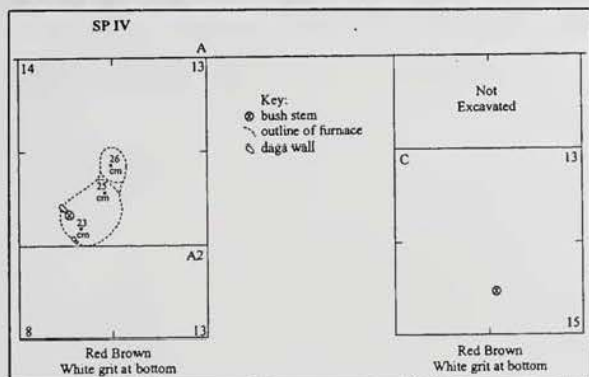
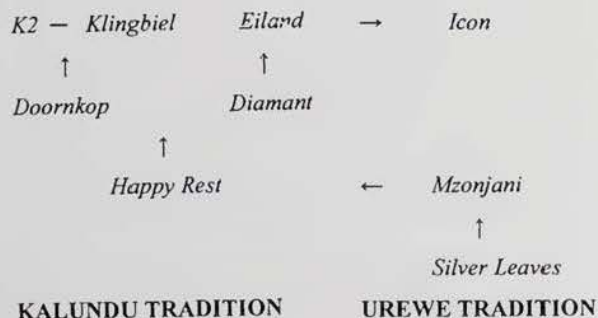


Fig. 15. Site 10: Furnace photograph and plan.

DISCUSSION

The surveys for Project Lion established the local culture history sequence that formed the background to the mitigation. First was the Mzonjani pottery (Maggs 1980) at Site 16 (found during the mitigation phase), dating to between AD 450 and 700. Mzonjani is the second phase, derived from Silver Leaves (Klapwijk & Huffman 1996), of the Kwale Branch of the UREWE TRADITION. Mzonjani merged with Happy Rest (Prinsloo 1974), the earliest phase of the KALUNDU TRADITION in southern Africa, to produce Doornkop (Inskip & Maggs 1975; Whitelaw 1996). This merger took place somewhere further north in Limpopo Province. Doornkop (Inskip & Maggs 1975; Whitelaw 1996) in turn generated K2 (Fouche 1937), found in the Limpopo Valley, and Klingbiel (Evers 1980), found on Site 15.



Later, at about AD 1300 ± 50, the first Sotho/Tswana-speaking people, making Icon (Hanisch 1977) pottery (a late phase in the UREWE TRADITION), moved into southern Africa. As pottery from Sites 7 to 11 show, they too interacted with earlier people in the Limpopo Province, this time making Eiland (Evers 1981) pottery (the third phase of another branch of Happy Rest).

The mitigation exercise concentrated on Doornkop and Icon sites. Some finds help to expand our knowledge of life ways in the Early Iron Age. For instance, the glass bead from Trench I is the first recorded from any Doornkop site. The same kind of imported bead was common at this time in the Limpopo Valley where local people were involved in an extensive East Coast ivory trade (Wood 2000). Besides ivory, the trade also included iron. Significantly, a few other places near iron ore deposits have yielded the same early bead, notably the Tswapong Hills in Botswana and the western edge of the Waterberg. The Doornkop people at Site 1 therefore may well have been part of an iron-trading network connected in some way to the East Coast.

The other finds of interest are the cattle teeth from Pit 2 and the ash layer in Trench II. Cattle remains are typical of Early Iron Age sites, but their numbers are usually low, as at Site 1. The two kraals in the new plant area, however, show that the faunal remains seriously under represent the actual numbers present in the settlement. It is therefore not possible to estimate the importance of cattle from faunal remains alone. According to ethnographic and other evidence (Huffman 1982), the presence of the Central Cattle Pattern shows that Doornkop villagers practiced lobola, that is to say, they exchanged cattle for wives.

The material saved for future analyses should contribute to a better understanding of other aspects of life in the Early Iron Age. The remains from Site 10, furthermore, should help elucidate iron production at the beginning of the Late Iron Age.

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REFERENCES

- Evers, T.M. 1980. Klingbeil Early Iron Age sites, Lydenburg, eastern Transvaal, South Africa. *South African Archaeological Bulletin* 35: 46-57.
- Fouche, L. (ed.) 1937. *Mapungubwe: ancient Bantu civilization on the Limpopo*. Cambridge: University Press.
- Hanisch, E.O.M. 1979. Excavations at Icon, northern Transvaal. In: Van der Merwe, N.J. & Huffman, T.N. (eds), *Iron Age Studies in southern Africa* pp. 72-79. South African Archaeological Society Goodwin Series 3.

- Huffman, T.N. 1982. Archaeology and ethnohistory of the African Iron Age. *Annual Review of Anthropology* 11:133-50.
- Huffman, T.N. 2005. Excavation for graves for Project Lion. Johannesburg: Archaeological Resources Management.
- Huffman, T.N. & Schoeman, M.H. 2004. Archaeological reconnaissance for Project Lion. Johannesburg: Archaeological Resources Management.
- Inskeep, R.R. and Maggs, T.M. 1975. Unique art objects in the Iron Age of the Transvaal. *South African Archaeological Bulletin* 30: 114-138.
- Klapwijk, M. & Huffman, T.N. 1996. Excavations at Silver Leaves: a final report. *South African Archaeological Bulletin* 51: 84-93.
- Maggs, T. 1980c. Mzonjani and the beginning of the Iron Age in Natal. *Annals of the Natal Museum* 24:71-96.
- Miller, D. 2002. Smelter and smith: Iron Age metal fabrication technology in southern Africa. *Journal of Archaeological Science* 29: 1083-1131.
- Prinsloo, H. 1974. Early Iron Age site at Klein Afrika. *South African Journal of Science*. 70: 271-273.
- Whitelaw, G. 1996. Lydenburg revisited: another look at the Mpumalanga Early Iron Age sequence. *South African Archaeological Bulletin* 51: 75-83.
- Wood, M. 2000. Making connections: relationships between international trade and glass beads from the Shashe-Limpopo area. In: M. Lesley, & Maggs, T.M. (eds), *African Naissance: The Limpopo Valley 1 000 Years Ago* pp. 78-90. *South African Archaeological Society Goodwin Series* 8.
- Wood, M. 2005. Glass beads and Pre-European trade in the Shashe-Limpopo region. Unpublished M.A. thesis: University of the Witwatersrand.