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**THE ARCHAEOLOGICAL INVESTIGATION OF AN
IRON AGE SITE ON THE FARM RIETFONTEIN 101 IS,
EMALAHLENI DISTRICT, MPUMALANGA PROVINCE**

For:

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SUMMARY

The archaeological investigation of Iron Age settlements on Rietfontein 101 IS started early in 2003 when the NCHM was contracted by Oryx Environmental to conduct an Archaeological and Cultural Historical Survey and Impact Assessment for the extension of the Kriel South Collieries (now Isibonelo Collieries) near Kriel in Mpumalanga (See Van Schalkwyk 2003KH06). It was during said survey that the stone walled Iron Age settlements on Rietfontein, amongst others, were identified and mitigation measures (i.e. mapping and excavations) recommended.

Between June and September of 2003, researchers from the NCHM conducted detailed mapping of two of these settlements (Settlements A & B). It was during this phase that Settlement A was identified as the area where archaeological excavations were to be conducted. After obtaining a permit from SAHRA, two weeks of excavations were conducted in June of 2003. Seven excavations were conducted, during which hut enclosures and ash middens were concentrated on. In the process close to 13 000 artifacts were recovered and information gathered on the settlement's layout and history. Through the detailed analysis of the cultural material, as well as the interpretation of the results of the mapping, we were able to reconstruct in part the time frame of human occupation, the cultural identity of its inhabitants, the domestic economy of the community, as well as the settlement organization.

It is recommended that development continue in the area, but that care should be taken not to disturb or destroy any other sites outside of the current mining boundaries. If any extensions or alterations to plans are made, the archaeologists should be called in to investigate and mitigation measures be employed.

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THE ARCHAEOLOGICAL INVESTIGATION OF AN IRON AGE SITE ON THE FARM RIETFONTEIN 101 IS, EMALAHLENI DISTRICT, MPUMALANGA PROVINCE

INTRODUCTION

The Late Iron Age of Rietfontein is located on the farm Rietfontein 101 IS near the town of Kriel in Mpumalanga. The Iron Age settlement excavated consist of at least 6, and maybe even more, individual settlement units or homesteads, containing features such as stonewalled hut enclosures, livestock enclosures, granary platforms and ash middens. The archaeological excavations concentrated on huts and middens. Besides the excavations, surface sampling was also undertaken.

The main motivation for conducting the archaeological investigations is due to the fact that major development is taking place here. The recently established Isibonelo Collieries (part of the old Kriel South Collieries) are commencing with large-scale opencast coalmining operations here, and this Iron Age site will ultimately be destroyed as a result. Therefore, the archaeological work was to a large extent a rescue operation that aimed at recovering as much cultural material as possible from the site before mining operations commenced. The detailed mapping and drawing of this site, and others in the area, was done during earlier phases. The archaeological excavations was therefore a continuation and completion of work started at the site earlier.

AIMS

The aims of the archaeological work on the Iron Age site were basically four-fold:

1. to develop a time-span of settlement at the site through radiocarbon dating and the analysis and interpretation of cultural material recovered during the excavations
2. to reconstruct and interpret the domestic economy that the people followed at the settlement during its whole life-span
3. to try and determine the cultural identities, if possible, of the people who settled here, and
4. to interpret settlement organization

LEGISLATIVE REQUIREMENTS

Aspects concerning the conservation of cultural resources are mainly dealt with in two acts. These are the South African Heritage Resources Act (Act 25 of 1999) and the Environmental Conservation Act (Act 73 of 1989).

South African Heritage Resources Act

Archaeology, paleontology and meteorites

Section 35(4) of this act states that no person may, without a permit issued by the responsible heritage resources authority:

1. destroy, damage, excavate, alter, deface or otherwise disturb any archaeological or palaeontological site or any meteorite;
2. destroy, damage, excavate, remove from its original position, collect or own any archaeological or palaeontological material or object or any meteorite;
3. trade in, sell for private gain, export or attempt to export from the Republic any category of archaeological or palaeontological material or object, or any meteorite; or
4. bring onto or use at an archaeological or palaeontological site any excavation equipment or any equipment that assists in the detection or recovery of metals or archaeological and palaeontological material or objects, or use such equipment for the recovery of meteorites.
5. alter or demolish any structure or part of a structure which is older than 60 years as protected.

The above mentioned may only be disturbed or moved by an archaeologist, after receiving a permit from the South African Heritage Resources Agency.

Environmental Conservation Act

This act states that a survey and an evaluation of cultural resources should be undertaken in areas where development, which will change the face of the environment, is to be made. The impact of the development on the cultural resources should also be determined and proposals to mitigate this impact are to be formulated.

METHODOLOGY

The methodology comprised the following:

Excavations - Excavations were measured out in pre-determined areas such as middens and huts. Standard archaeological methods of excavation were used.

Mapping and Drawing - This was done using a Nikon Total Station Electronic Surveying device. The data generated through this was downloaded onto computer and a software package called Model Maker was then used to generate maps and drawings of the site and the excavations.

Documentation - This comprised preliminary documentation in the field of artifacts recovered during excavations. Artifacts were sorted into their different categories and put in labeled bags and boxes. This was done per excavation and layer. Further documentation was done in the lab, with detailed sorting of artifacts into various categories.

Photographic documentation - Photographs of the site in general, as well as individual structures, features and objects, were taken to help with the interpretation of the findings. These photographs also form part of the permanent record of the site, as it will be destroyed by the mining operations.

Analysis & Interpretation – Artifacts were analyzed in the laboratory by the researchers (ceramics, metal and other material) and by experts (faunal remains and C14 dating). Interpretation of the finds was based on this expert analysis.

GPS Data - A GPS reading of the site was taken in order to locate it on the 1:50 000 map of the area.

DESCRIPTION OF THE AREA

The site is located on the farm Rietfontein 101 IS near the town of Kriel, in the Emalaheni district of Mpumalange Province. It lies at approximately **26°20'44" S 29°15'26" E**.

The site falls in the Turf, or Themeda, Highveld Vegetational zone. Most of this has been ploughed up for agricultural purposes, mainly for maize production. The elevation ranges from 1500 – 1750 m above sea level, with rainfall between 650 and 750 mm per annum, falling mainly in the summer (Acocks 1988:105). The largest water source, the Steenkoolspruit, is located directly to the east of the site.

DISCUSSION

The archaeological excavations on Rietfontein focused on an Iron Age settlement that consist of at least 6, and possibly more, individual settlement units or homesteads. The common features found here include stonewalled hut enclosures, livestock enclosures, granary platforms and ash middens. The archaeological excavations concentrated on huts and middens, and were located in Settlement Units 1 (Excavations 1, 2 & 3), 4 (Excavation 4) and 6 (Excavations 5, 6 & 7) respectively. These three units, or homesteads, were chosen, as their spatial layouts seem to be relatively different from each other, at least superficially. Besides the excavations, surface sampling was also undertaken.

SURFACE COLLECTION

A relatively large amount of cultural material was recovered during the surface sampling, and included decorated and undecorated ceramics, faunal remains (animal bones and teeth), shell and stone objects such as grinding stones and earlier Stone Age tools. Most of these were recovered from the Dragline walkway, or road, that was constructed here during initial mining operations before archaeological investigations started. Some scattered human remains of at least 3 individuals were also collected during the surface sampling.

THE EXCAVATIONS

A total of 7 excavations were carried out, with 3 on communal middens, 2 on huts, 1 on a hut with a private midden and a seventh on a stone circle near a hut. In the process 52 square meters of the site was excavated.

Excavation 1, Hut (Settlement Unit 1)

This was a 1 m x 6 m trench (Fig. 1) on a hut, stretching from the entrance right through to the back of the stone wall that enclosed the hut. No hut clay or hut floor was uncovered, and only a relatively small amount of cultural material was recovered from the excavation. This included pieces of pottery, faunal remains and a few metal fragments and part of a blade.

The deposit was extremely clayish (black turf mixed with a reddish and yellowish colored clay) right through, with sterile soil appearing at approximately 45cm. No charcoal for C14 dating was recovered.

Excavation 2 (Settlement Unit 1)

Excavation 2 was a 2 m x 2 m square (Fig. 2 - 3), put out over a small stone circle located right in front of the entrance of the hut excavated in Excavation 1. The stone circle itself has a diameter of just more than 1.50m, with a wall approximately 30cm wide.

The exact function of the stone circle is unknown. At first it was believed to be either a granary platform, or perhaps a fireplace or cooking shelter. No ash was found inside the circle, and although a few burnt bones were recovered, the amounts are not substantial enough to indicate that this might have been a fireplace or cooking shelter. Some pottery and one small fragment of metal were also found inside the circle. The total depth of the excavation (inside the circle), up to sterile soil, was 35cm.

Excavation 3 (Settlement Unit 1)

This was a 10 m x 1 m long trench (Fig.4) roughly across the center of a large communal midden located in Settlement Unit 1. There were at least two stratigraphic layers in the midden, starting with approximately 15 cm of dark brown topsoil, followed by light grey to dark and black ash about 40 cm thick. Sterile soil (a gritty, clay soil) was reached at around 55 cm deep.

In terms of cultural material the midden was extremely rich. A large amount of faunal remains, both unidentifiable and identifiable, as well as ceramics, were recovered. Other artifacts found included shell, bone tools, beads and pendants, a copper earring and an iron adze. The most interesting find was the burial of a child, which started to appear at a depth of approximately 42 cm.

Excavation 4 (Settlement Unit 4)

Excavation 4 was a 4 m x 2 m trench (Fig. 5), located on one of the largest ash middens on the site. Settlement Unit 4 consists mainly of a number of circular depressions, situated around this central midden. These depressions are probably the remains of earlier stonewalled enclosures, robbed of their stones to be used as building material somewhere else in the settlement. Approximately 57 cm of deposit was removed before sterile levels were reached. This included a 10 cm thick layer of dark brown topsoil; a light grey ash layer of 8 cm; a reddish/orangey soil and grey ash

layer (11 cm thick); grey colored ash (8 cm); black colored ash (6 cm) and a dark grey ash layer of 14 cm thick.

This excavation was also very rich in terms of cultural material. This included faunal remains, shell fragments and shell beads, worked bone artifacts such as beads and scrapers, ceramics, a copper earring and a piece of a clay figurine.

Excavation 5 (Settlement Unit 6)

Excavation 5 was the third midden excavation, and was as 2 m x 2 m square (Fig. 6). The stratigraphy of the excavation consisted of a layer of dark brown top soil (11 cm thick), light grey ash (9 cm), a mixed black and orange layer of ash and soil (8 cm), another layer of dark brown soil (10 cm thick), followed by sterile soil at a depth of approximately 38 cm. A fair amount of cultural material was recovered, including pottery, faunal remains, shell, some stone objects and pieces of hut clay.

Excavation 6 (Settlement Unit 6)

This excavation was done in a stonewalled circle, or hut enclosure, with a section of the excavation put out in a small midden that are located at the back of and attached to the stone wall (Fig.7-8). The excavation measured 1 m x 4 m. The main aims of this excavation were to locate the possible hut and hut floor, as well as to examine the foundation of the stone wall and contents of the ash midden.

Although a hut and hut floor were not found, the remains of a small granary (Fig. 9) were uncovered. This consisted of the granary clay and floor, with a cache of burnt sorghum still in situ. The granary was located right at the back and against the stone wall of the presumed hut enclosure, and had a diameter of nearly 1 m. In the midden a platform of ash, clay and stone (Fig. 10) was uncovered. This was possibly originally a stack of dung cakes, used as fuel for making fire. It had a diameter of approximately 1 m as well. Cultural material found in Excavation 6 included pottery, bone and shell, and of course burnt sorghum.

On the inside of the stone wall the stratigraphy consisted of a level of dark brown top soil 22 cm thick, orange colored clay (6 cm), a thin yellow layer of dung floor (1 cm) and a black, burnt, dung floor level (3 cm). The depth of the stone wall on the inside was approximately 28 cm. On the outside of the wall (in the midden), the dark brown top soil layer was 16 cm thick, followed by a orangey-grey ash and clay level of 4 cm, light grey and brown grey ash levels of 6 cm and 10 cm thick respectively, a whitish, gritty layer of 5 cm and finally a hard, brown soil level of 6 cm thick before sterile soil was reached. The depth of the stone wall on the outside was 45 cm. The width of the stone wall was approximately 1.10 m, with a double row of large stones filled with smaller ones used in the construction of the wall.

Excavation 7 (Settlement Unit 6)

Excavation 7 (Fig. 11) was a 4 m x 4 m square inside of a stonewalled circle, presumably a hut enclosure. The aim was to try and locate the hut remains and an intact hut floor, if possible, in this excavation.

Similar to Excavations 1 and 6, not hut remains of any sort were recovered. As with Excavation 1, the soil consisted of dark brown, nearly black turf-like clay, with sterile soil reached at a depth of around 45 cm. Only a relatively small amount of cultural material was recovered from this excavation, including a few bones and some pottery. A stone circle (Fig. 12) inside the stone walled enclosure, was included in the excavation, and opened up to see whether or not it was a granary pit. No indication of this was found, although some pottery was recovered from here.

CULTURAL MATERIAL

Close to 13 000 artifacts were recovered from the excavations and the surface of the site. This included ceramics, faunal remains, metal, shell, stone tools and a variety of other cultural objects. The largest part of the sample is made up of faunal remains (57.65%), followed by ceramics (41.05%). All the material was analyzed and documented in their relevant categories, and the results of this research will now be discussed in more detail.

Faunal remains

The faunal remains totaled 7651 individual objects, of which 6888, or 90%, were unidentifiable bones and teeth (including worked bone and formal bone tools). Only 10% (747) identifiable bones and teeth were recovered.

Nearly 54% of the sample was recovered from Excavation 4, followed by Excavation 3 (30.92%). The other 15% came from the rest of the excavations and surface of the site. The various settlement units contributed 53% (Settlement Unit 4), 37% (Settlement Unit 1) and 10% (Settlement Unit 6) of the sample respectively. Most of the unidentifiable faunal remains (83%) are made up of bone flakes and miscellaneous bones, with skull, vertebrae, rib and enamel fragments making up nearly 17%. Just over 6.5% of the sample was exposed to fire.

A total of 33 modified bone fragments and flakes, as well as more formal tools and objects, were recovered from the excavations and surface of the site (Fig. 13). The sample included scrapers, broken needles and awls, polished bone beads and a number of bones with cut and chop marks. A few bone pendants, 7 in total, were recovered from the excavations. These were worn around the neck as personal adornment, as was evidenced by five impala phalanges (toe bones) found around the neck of the child burial in Excavation 3.

Through the careful analysis of the identifiable faunal sample we can get a clearer picture of the diet of a community during a certain period of time, and how this diet (possibly) changed over time. Hunting, herding and butchering practices can also be reconstructed, while one is able to identify what types of animal (domestic and non-domestic) were present in an area during different time periods. The analysis is done by excavation, and layer by layer, to try and see whether any changes occur over time.

The faunal material was sorted into identifiable and not identifiable fragments and the identifiable analysis was done with the help of the Transvaal Museums' Archaeozoology Department's collection. The analysis was done at international standards as promoted by ICAZ (International Council of Archaeozoology).

Age class determination, where applicable, was done according to Voigt (1983) and Plug (1988). The quantification methods MNI, NISP and QSP used were done in accordance to the methods set out by Plug, I (1988). Weathering was estimated by comparison to the rest of the sample analyzed.

The total sample bones that could not be identified were 6888 with a mass of 7909.6g. Of these, 496 specimens were burnt. The total sample bones that could be identified were 747 with a mass of 6016.2g. All species identified occur or did occur in the region in the past.

A total of 23 species were identified. Most commonly found was *Bos taurus* followed by Bov III and Rodent. A total of 16 species each was found in Excavations 3 and 4. Excavation 4 produced the largest identifiable sample (339 specimens). Settlement one produced 17 species with an identifiable sample of 324 specimens.

Age classes identified

In the Surface material one sub-adult individual was identified. In Excavation 3 six juveniles were identified, with four aged individuals and 11 juveniles in Excavation 4. Excavation 6 yielded two juveniles.

Taphonomy and worked bone

With 496 not identifiable and nine identifiable bones, burning was the most common taphonomy detected. Eight weathered bones, 16 bones with cut marks and one with chop marks were also identified. Animal damage to the bones included carnivore marks on six bones and 25 bones with rodent damage.

14 bones, all in the surface material, were sun bleached. This taphonomy is consistent, as these bones were exposed to the elements for a period of time.

Pathology

Seven individuals with pathology were identified. A left tibia of a rodent was malformed, probably due to a tumor of some kind, pushing the cortex of the bone outwards. Exostosis, possibly part of the aging process or trauma, was detected on six individual bones.

Discussions and Conclusions

Of the 23 species identified the largest number were herded animals. Cattle, followed by sheep, made up the largest portion of these. Although wild animals were present on the site, the most represented was zebra (eight specimens), but not in such amounts that it can be argued that these had been used as a main food source.

A grey duiker horn core could have been used as a snuff holder or decoration, but as no taphonomy was detected on the specimen its possible use remains speculation.

Two impala 1st phalanxes were modified, one drilled partially through the distal shaft (Excavation 3) and the other drilled from the proximal articulation to the distal articulation (Excavation 4). These were probably used as pendants for personal adornment.

The wild animals found, namely zebra, impala and grey duiker, were found in Excavations 3 and 4 respectively, but were not present in the other excavations. The hippopotamus ivory (Fig. 14) was located in Excavation 1. As no other hippopotamus skeletal material was found, this fragment could point to a possible trade item.

There is a stream near the site but no fish bones were identified. This could point to a possible taboo on the use of fish as food source, or that they were not abundantly available at the time. Freshwater mussel shell was however recovered in fairly large amounts, pointing to the utilization of this marine food source in the diet of the inhabitants.

Ceramics

Ceramics made up nearly 42% of the total archaeological sample, and was recovered from all the excavations, as well as the surface of the site.

Ceramics are one of the most durable materials recovered from archaeological sites, sometimes remaining intact for hundreds or even thousands of years. Ceramics are therefore a great tool in helping the archaeologist to reconstruct a relative timeframe for human occupation of a site, whilst it also helps us to understand the domestic economy practiced at a site and in determining the cultural identity of its occupants.

Other ceramic/clay objects

This category is represented mainly by worked pieces of pottery (edges rounded or smoothed from use), such as scrapers, stoppers and broken spindle whorls. Part of a ceramic spoon, or ladle, was recovered from Excavation 4, while a fragment of a clay oxen came from Excavation 4 as well (Fig. 15).

Iron Age Ceramics

Iron Age pottery (Fig. 16 & 17) was found in large numbers in all the excavations, whilst a substantial amount was also recovered from the surface of the site. More than 97% of all shards were undecorated, although there was the occasional red or black ochre burnish. Rims accounted for just more than 9% of the ceramic sample. Only 18% of rims were decorated, while 38 of the body shards recovered had decorations.

The ceramics were analyzed according to procedures proposed by Huffman (1980). In this, multidimensional types are formed using 3 independent variables: vessel profile, decoration layout (position on vessel) and decoration motif. The intersection between these variables produces classes of vessel present on a site. For the purposes of this report, the undecorated rims are therefore discarded, as no classes can be identified. It would suffice, however, to mention that a total number of 396 different vessels are represented, and although most of the fragments are too small to determine vessel

profile, a few types of undecorated vessel were identified. These include pots with everted or short upright necks, bag-shaped pots and various small and large bowls.

Although decorated body shards are not included in the formal analysis, they play an important role in giving us an idea of the types of decoration present in the sample. Bands (single or multiple) of comb stamping, finger impressions and rim incision (notches) are most common. There are however also stylus impressions, line incisions, punctuates, applied decorations and red/black ochre bands in combination with other types of decoration present.

A total number of 63 individual vessels were identified in the decorated rim sample, an indication of the fragmentary nature of the ceramics recovered. The types of vessel include mainly pots, although a few bowls are also present. The types of decoration are similar to that found on the decorated body sherds. A number of different decorations were found in combination, including rim notches & stylus impressions; stylus impressions and incised lines; incised lines and ochre bands; comb stamping and ochre bands and finger impressions in combination with incised lines and ochre bands.

Some decoration motifs were found, including:

- a. single rows of thumbnail impressions
- b. multiple rows of thumbnail impressions
- c. single rows of finger pinched decoration
- d. single lines of stylus impressions
- e. wide band of comb stamping bordered by single row of comb stamping above and below by a double row of comb stamping
- f. wide bands of comb stamping
- g. single lines of rim notches
- h. single lines of incisions

The decoration layouts (position of motif on vessel) vary. They are:

- a. decoration below the rim and on the body
- b. decoration on the neck
- c. decoration just below the rim
- d. decoration on top of the rim
- e. decoration on top of the rim and just below
- f. decoration on the body
- g. decoration on below the rim and on the neck
- h. decoration on the rim, below the rim and on the body
- i. decoration on the rim and on the shoulder

Four types of vessel were identified, including:

1. Pots with short upright necks
2. Pots with slightly everted necks
3. Pots with everted necks
4. Bowls

The intersection between profile (4) and layout modes (9) produced a possible 36 classes of vessel, of which 8 are present. They are:

1. Pots with decoration below the rim and on the body
2. Pots with decoration on the rim and on the body
3. Pots with decoration below the rim
4. Pots with decoration on the rim
5. Pots with decoration on the body
6. Bowls with decoration below the rim and on the body
7. Bowls with decoration below the rim
8. Bowls with decoration on top of the rim

Although the ceramic sample was fairly fragmented, we were able to identify a number of decoration types, some motifs and a few vessel profiles. Using Huffman's 1980 method, we identified 8 classes of vessel present at the site (see above for details).

The vessel and decoration types are similar to that found by Taylor at Wildebeestfontein in 1979, a site east of Kinross and not far from Rietfontein. According to him, this is typical of Type V Iron Age sites, recorded by Maggs (1976) in the Free State (Taylor 1979: 129). The ceramics from Rietfontein (in terms of vessel and decoration types) are also similar to the samples from Makgwareng, a Type V site excavated by Maggs in 1976. Makgwareng is located in the Lindley district of the Free State. The Rietfontein, Wildebeestfontein and Makgwareng decorated ceramic assemblages are dominated by comb stamping, applied bands of decoration and finger impressions, although stylus impressions, incisions and rim notches also occur.

Metal

A very small number of metal artifacts were recovered from the excavations (Fig. 18). More than half of the 14 objects were unidentifiable fragments of metal objects. The identifiable metal artifacts include two copper earrings, one each from Excavations 3 and 4; a piece of flattened lead and three adze or hoe fragments from the surface of the site, Excavation 3 and Excavation 4 respectively.

Stone Artifacts

In total 29 stone artifacts were recovered during the archaeological investigations (Fig.19). They were found in all excavations, except Excavation 2, and on the surface of the site.

Most of the stone artifacts are either upper grinders (for grinding maize or other cereals) or rubbing stones (for smearing hut floors), although there are also some stone tools that could be of earlier Stone Age origin (MSA or LSA). These include cores and flake-tools such as scrapers. One hematite nodule and two pieces of utilized schist (edges smoothed and/or rounded) were also recovered from the excavations. Besides the upper grinders found in the excavations, a relatively large number of both upper grinders and large (broken) lower grinding stones were identified on the site, attesting to the success and significance of agricultural practices at the settlement.

Shell

A total of 130 shell artifacts, including fragments of freshwater mussel and land snail, ostrich eggshell (OES) and OES beads and bead fragments (Fig. 20), were recovered from the surface of the site as well as the excavations.

Although most of the shell was fragmented, a number of complete or partially complete freshwater mussel shells were also recovered. Some of the fragments and complete shells have signs of being used (in the shape of cut and polish marks), probably as pottery scrapers or burnishers.

The presence of a fairly big amount of freshwater mussel and land snail shell fragments in the material sample is good indication that this food source could have been utilized by the community to supplement their meat diet. Although shell beads were mainly used as personal adornment, they were also utilized in trade.

Other

This category included pieces of hut clay and floor, as well as a large sorghum sample (Fig. 21) from the granary in Excavation 6 and three soil samples taken from Excavations 3, 4 & 5 respectively. The sorghum was burnt, and came from the floor of the granary. It was handed in for C14 analysis at the Quadru Section of the CSIR.

Human Skeletal Remains

A burial (Fig. 22) was uncovered in Excavation 3. The remains were those of an infant or very young child. The exact age and sex of the individual could not be determined. The skeletal remains were badly preserved (see Fig. 23), with a number of skeletal parts missing, or broken. Although the skeleton collapsed, the way the remains were positioned suggests that the individual was buried sitting upright facing east. The individual was buried in a small pit dug (30cm x 20cm) into the midden. The most interesting aspect of the burial was the bone and stone pendants found with the skeletal remains (Fig. 24). The pendant assemblage consisted of 5 impala phalanges with bored holes, and a small bored green soapstone pendant.

Although this was the only burial opened during formal excavations, the remains of at least three, and possibly even four individuals were recovered from the surface of the site. This was due to earlier mining activities in the area, specifically the construction of a dragline road that cut through a section of the settlement. The dragline road was made prior to archaeological investigations being undertaken in the area. The skeletal remains lay exposed and scattered over the surface, and their contexts and positions could not be determined clearly. Individual skeletal parts, such as teeth (adult) and vertebrae were also recovered from Excavations 3 and 4 respectively. These remains were not associated with any burials.

No detailed anatomical analysis of the skeletal remains has been undertaken yet, but could be considered at a later stage.

MAPPING THE SITE

The mapping and drawing of any archaeological site forms an integral part of the recording and documentation process. Where a site is threatened with disturbance or destruction through development, this is sometimes the only evidence available to archaeologists about the existence of a site. Therefore, we conducted a fairly detailed mapping of the site and features found on it (Appendix 2). The excavations carried out were also mapped. Recording the stratigraphy visible in each excavation also forms part of the recording process, and helps with the interpretation and reconstruction of the settlements' history.

A Late Iron Age (LIA) settlement complex is usually made up of a number of individual settlements, each consisting in turn of any number of individual settlement units or homesteads. These units contain features such as livestock (cattle, sheep/goat) enclosures or kraals, huts, granaries and ash middens).

At least 10 settlements were identified on Rietfontein 1011S, forming part of a larger Settlement Complex. The area covered by this is quite extensive, and a few hundred people might have lived here at some time. At this stage it is not quite clear whether or not all the settlements are contemporary, or if there are differences in age. Two settlements, consisting of at least 8 settlement units (6 and 2 respectively) were mapped and drawn in detail. They have been termed Settlement A and B, with A the settlement where the archaeological excavations were conducted.

The layout of most LIA settlements is based on the so-called Central Cattle Pattern (CCP) model, with cattle enclosures situated in the center of each settlement surrounded by individual households. The CCP is based on Adam Kuper's 1982 analysis of Nguni and Sotho-Tswana settlement organization. This underlying organizational principle is found in all African communities where cattle is the main form of economic wealth and bride prize, and can be related back to the Iron Age.

From the mapping and drawing done at Rietfontein, it is clear that the CCP model is also applicable, with cattle enclosures, or open spaced areas for livestock, located roughly in the center of each settlement unit (homestead). Stone walled hut bays and other features enclose these open areas. The two settlements drawn (Settlements A & B) show some similarities in terms of layout, although there clear differences in terms of size and maybe even building technique. This could indicate an age difference, or that different cultural groups occupied each settlement. Settlement A contains six distinct units, while B has only two. Settlement A also covers a much larger area than B.

A large number of stone platforms, as well as upper and lower grinding stones (used to ground down cereals) were identified in the two settlements. The platforms were most probably used as grain bin stands, with grain baskets or clay vessels placed on top of these structures to protect the grain from animals and to keep it from getting wet. This attests to the importance and success of agricultural practices at these settlements. Settlement Unit A contains a far larger number of these features and objects, but this could be related to the relative size difference between the two settlements. Clusters of platforms in association with upper and lower grinders, are evident on the site, and could be indicative of certain activity areas, such as the

preparation of food for consumption and storage. This forms part of the spatial organization or layout of a settlement.

Another aspect related to settlement layout or organization that is visible, is internal shift within individual units and each settlement. This is in the form of abandoned homesteads, consisting of shallow depressions where former stone circles stood. The stone walls that surrounded the edges of these depressions have all been removed to a large extent, and have probably been re-used in other areas. This could indicate internal dynamics within the large community, with settlements expanding due to a growing population, or that these depressions are the remains of settlements occupied by different groups earlier in time.

Taylor found similar depressions at Wildebeestfontein, a LIA site near Kinross, in 1979. The depressions varied in size, was nearly void of any stones, and they tended to cluster in groups. The largest of these groups formed a circle that enclosed a central open space (Taylor, 1979:120). Settlement Unit 4 at Rietfontein is similar, consisting of a number of depressions enclosing a large open space, containing a number of ash middens as well. This open space might have been utilized for keeping livestock.

From the mapping the position of the settlements and individual units are also informative. They are located on high ground, above a gentle slope that runs down towards the Steenkoolspruit to the east. This provided them with a clear view of the low-lying ground to the east. The section below the slope is also flat and perfect for agricultural purposes and grazing. This position was also clearly chosen for protection. Their location close to a readily available source of drinking water was certainly very important as well.

To conclude, the LIA settlements at Rietfontein do seem to conform to the Central Cattle Pattern (CCP) layout, with central open spaces for livestock enclosed by hut bays. The location of the various settlements was carefully chosen for protective reasons, and was situated close to suitable water sources and grazing grounds for cattle.

DATING THE SITE

Determining a time frame for human occupation of the site was one of the main aims of the archaeological research. Getting dates can be done in two ways. Firstly, relative dates can be obtained through the analysis of cultural material, especially decorated ceramics, which can be compared to artifacts from sites with known dates. The decorated Iron Age ceramics from Rietfontein are similar to ceramics found at already dated sites such as Makgwareng (Maggs 1976) and Wildebeestfontein (Taylor 1979), providing us with a tentative time-span of settlement of between the mid 17th and late 19th centuries.

In order to obtain much more absolute dates, one need dateable samples of charcoal or burnt bone. The analysis of these samples provides us with calibrated radiocarbon (C14) dates that are fairly accurate. No suitable charcoal samples were recovered from the excavations, and the only dateable material found was the burnt sorghum from the granary in Excavation 6. This was handed in to the CSIR's QUADRU

Section for analysis, and was hoped to provide us with a more accurate radiocarbon date for Iron Age settlement at Rietfontein.

INTERPRETING THE INFORMATION

Time span of Human settlement

The radiocarbon analysis of burnt sorghum from Rietfontein gave a radiocarbon age of 330 ± 50 , calibrated to AD 1516 – 1590 (Pta-9350). The most probable date was given as 1640, with a range between 1516 and 1655. This date is similar to the earliest dates from Makgwareng (Maggs 1976:129), a Type V site located in the north-central Free State. It is much earlier than the dates Taylor obtained at Wildebeestfontein not far from here, that indicated either a mid 19th or early 20th century occupation of that site (Taylor 1979:129). In any event, the date from Rietfontein is much earlier than expected, and needs to be corroborated with further archaeological research, including more C14 dates. Three samples of burnt bone from the site was handed in recently, and the results are anxiously awaited.

By looking at the decorated ceramics it is possible to suggest that Iron Age Bantu-speaking groups of people settled here between the mid 17th and mid 19th centuries. The decorated ceramics from Rietfontein are similar to those from sites such as Makgwareng and Wildebeestfontein, sites with radiocarbon dates that fall within this range. The settlement might not have been occupied continuously for this period of roughly 200 years (or earlier), but it is clear that it has an Iron Age origin. The settlement was probably more extensively occupied during the *difaqane* than during any other time. The *difaqane* was a period of upheaval during the 1820's and 1830's, which affected the whole of southern Africa, caused in the main by Mzilikazi. The aggregated, extensive, nature of the settlements at Rietfontein is typical of sites dating to this period, with many different groups clustering together in large communities for mutual protection.

Domestic Economy

Reconstructing and interpreting the domestic economy of the settlement proved more attainable. Domestic economy includes aspects such as trade, agriculture, diet and metalworking.

Although there is scant evidence of any trade activities taking place, metal objects such as the copper earrings were of course also trade items. Established trade networks existed during that time, and undoubtedly trading, on some or other scale, did occur.

Agriculture was an important aspect of domestic economy. The number of upper grinders and lower grinding stones recorded in the settlement, as well as the granary platforms located in certain areas, attest to the success of agricultural practices. It is more than likely that crops such as maize, sorghum or millet, or a combination of these, were grown and utilized here, although evidence for sorghum production only was found. The remains of a small granary, with a cache of burnt sorghum on its floor, was uncovered in Excavation 6. The fragments of hoes found during the archaeological work are further evidence of agriculture.

Domestic animals (cattle & sheep) produced the largest number of identifiable specimens to the bone sample. Cattle (*Bos taurus*) dominated the domestic sample, with a minimum of 34 individual animals contributing to the faunal count. This is compared to 9 sheep and a single possible goat. Non-domestic species include zebra, impala and grey duiker (2 individuals each), mongoose, hare and other rodents, as well as francolin-sized birds. The rodents were more than likely later intrusions into the middens, and should therefore not be considered as contributors to the diet. Bov.I, II and III-sized animals (represented by skeletal parts that could not be identified to species level) also contributed significantly to the sample. Both the domestic and non-domestic count could therefore be higher.

Although they herded animals to a large extent, non-domestic species such as zebra, impala and grey duiker were also hunted to supplement the meat diet. The inhabitants also trapped animals such as mongoose, hares and birds. Other food sources that contributed to their diet include freshwater mussel and giant landsnail, while the utilization of the canids (dog species) and bullfrogs as sources of food can also be debated. The diet of the people at the settlement was therefore very high in meat content.

Metalworking is the last aspect of domestic economy that needs mentioning. Although no evidence for metal smelting and working has been found so far, it is quite possible that the copper earrings and other iron implements recovered from the site were manufactured here. It is more likely, however, that they were acquired through trade, or brought in by the occupants from other areas when they settled at Rietfontein.

Cultural Identities

Determining the cultural identities of the people who settled at the site during the Iron Age was one of the aims of the archaeological investigations. This proved difficult however. No ethnographic records or oral histories for this area exist. Because the site was more than likely settled extensively during the *difaqane*, different groups would have settled here, making the exact identification of its occupants during any one period fairly impossible. That they were Tswana-speaking groups are however clear.

Settlement organization

At least 10 settlements, forming part of a larger Settlement Complex are located on Rietfontein. The area covered by this is quite extensive, and a few hundred people might have lived here at some time. Two settlements have been mapped and drawn in detail. Archaeological excavations were carried out on Settlement A. From the mapping and drawing it is clear that the CCP model is applicable, with cattle enclosures located roughly in the center of each settlement unit or homestead. Stone walled hut bays and other features enclose these open areas. Settlement A contains six distinct homesteads. A large number of stone platforms, as well as upper and lower grinding stones were identified. The platforms were most probably used as grain bin stands, with grain baskets or clay vessels placed on top of these structures to protect the grain from animals and to keep it from getting wet. Clusters of platforms in association with upper and lower grinders, are evident on the site, and could be

indicative of certain activity areas, such as the preparation of food for consumption and storage.

Another aspect related to settlement layout or organization is internal shifts within the settlement. This is in the form of abandoned homesteads, consisting of shallow depressions where former stone circles stood. Taylor found similar depressions at Wildebeestfontein near Kinross, in 1979. The depressions varied in size, was nearly void of any stones, and they tended to cluster in groups. The largest of these groups formed a circle that enclosed a central open space (Taylor 1979). The layout of Settlement Unit 4 at Rietfontein is exactly similar. This open space might have been utilized for keeping livestock, while the stone walls that used to demarcate the hut bays were probably removed to build structures in other areas.

Settlement A is located on high ground, above a gentle slope that runs down towards the Steenkoolspruit to the east. This provided the occupants with a good view of the low-lying ground to the east. The section below the slope is also flat and perfect for agricultural purposes and grazing. The position was also chosen for defensive reasons. Its location close to a readily available source of drinking water was certainly very important as well.

CONCLUSIONS AND RECOMMENDATIONS

The archaeological investigations of the Late Iron Age settlement on Rietfontein 101 IS were successful. The mapping and excavations not only served to 'rescue' cultural objects from ultimate destruction through mining development, but also helped in the interpretation and reconstruction of the history of the stone walled site. Close to 13 000 artifacts were recovered in the process, including pottery, bone, shell, metal objects and stone tools.

Although we were not able to develop a definite time frame of Iron Age settlement as yet, it is possible to say that human occupation of the site possibly stretched from the late 16th to early 19th centuries. To some extent we were also able to interpret the domestic economy of the LIA communities at the settlement. The diet consisted to a large extent of meat, although other food sources such as sorghum, possibly other cereals and marine shell were also utilized. Agriculture played a fairly important role, as evidenced by the grinding stones, hoe fragments, granary platforms and remains of a granary that was found. They practiced herding, although hunting and trapping non-domestic animals also took place to a lesser degree. Although no direct evidence of trade and metalworking was found, these aspects of the domestic economy more than likely existed.

The cultural identity, or identities, of the people who settled here remains an unknown entity, although they were probably Tswana speakers. The settlement layout conforms to the Central Cattle Pattern (CCP), with a number of individual homesteads (6 in total) forming Settlement A.

It is recommended that the mining activities in the area continue. It should be noted that archaeological features and objects might still be uncovered during the mining operations, and that in such an event archaeologists be called in to investigate. Care should also be taken not to disturb any sites or features outside the boundaries of the:

proposed development, and that any extensions of and alterations to development plans be discussed with the archaeologists prior to them being implemented. This will ensure any unnecessary delays to the mining operation, as well as stop unwarranted destruction of any archaeological sites before they are properly investigated. We would also like to recommend that further archaeological research be conducted at other, undisturbed, sites in the area. This will help to fully interpret and reconstruct the history and prehistory of the wider geographical area that the Rietfontein Iron Age settlements form part of.

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**APPENDIX 1 – PHOTOGRAPHS OF THE EXCAVATIONS AND SOME
OF THE ARTIFACTS**

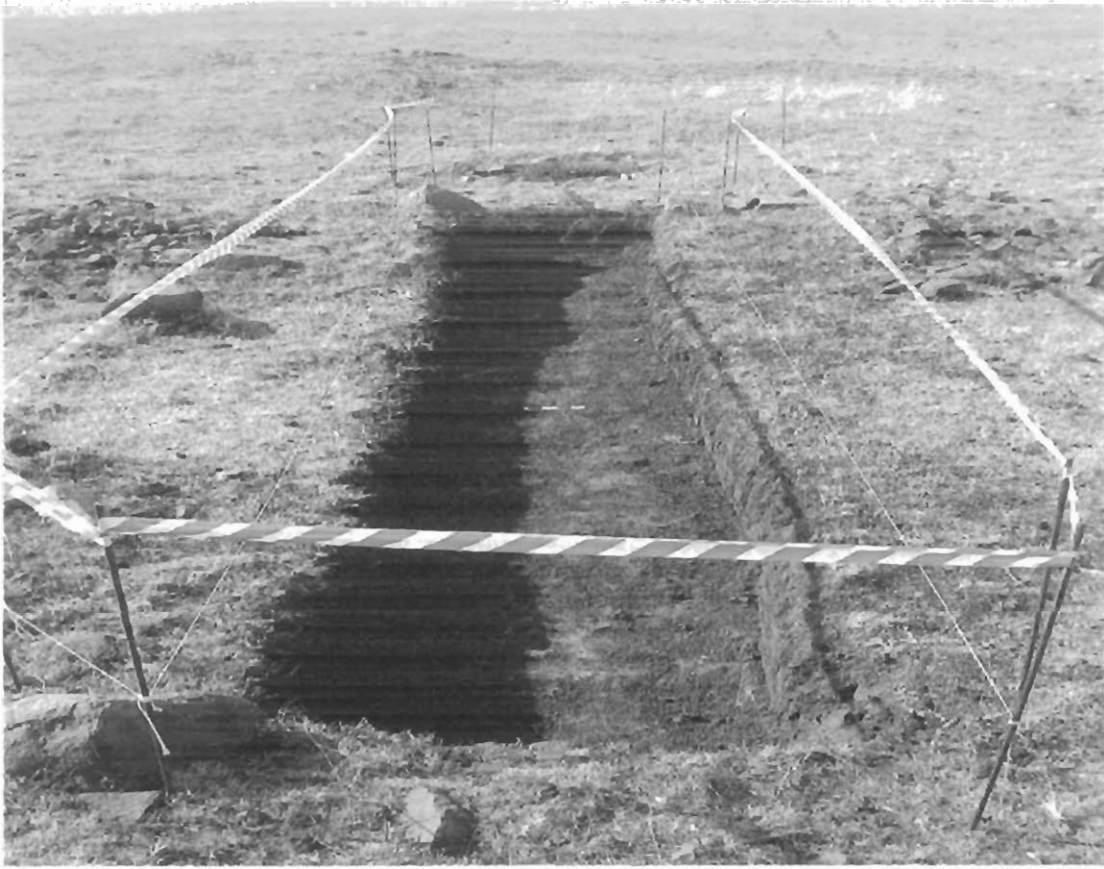


Fig. 1. Excavation 1.



Fig. 2. Excavation 2, stone circle.



Fig. 3. Excavation 2. Stone circle opened up to sterile level. This could possibly have been a granary or cooking hearth.



Fig. 4. Excavation 3, ash midden.

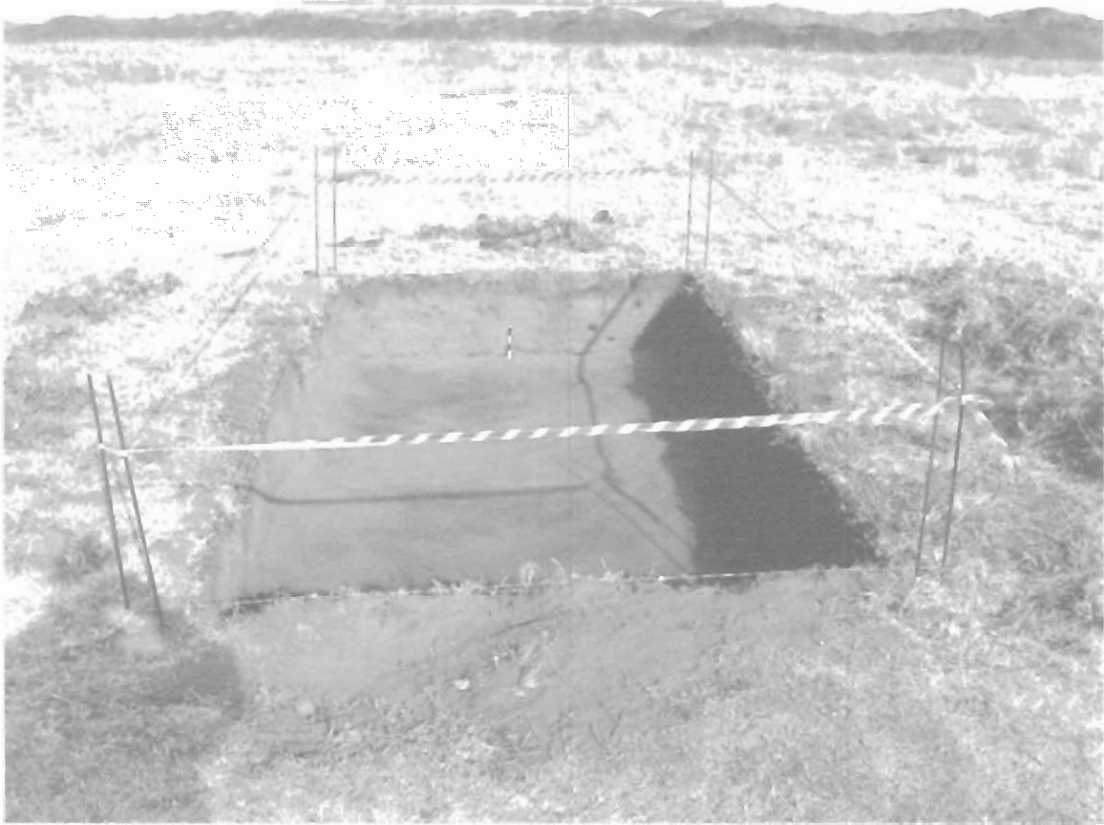


Fig. 5. Excavation 1. ash midden.

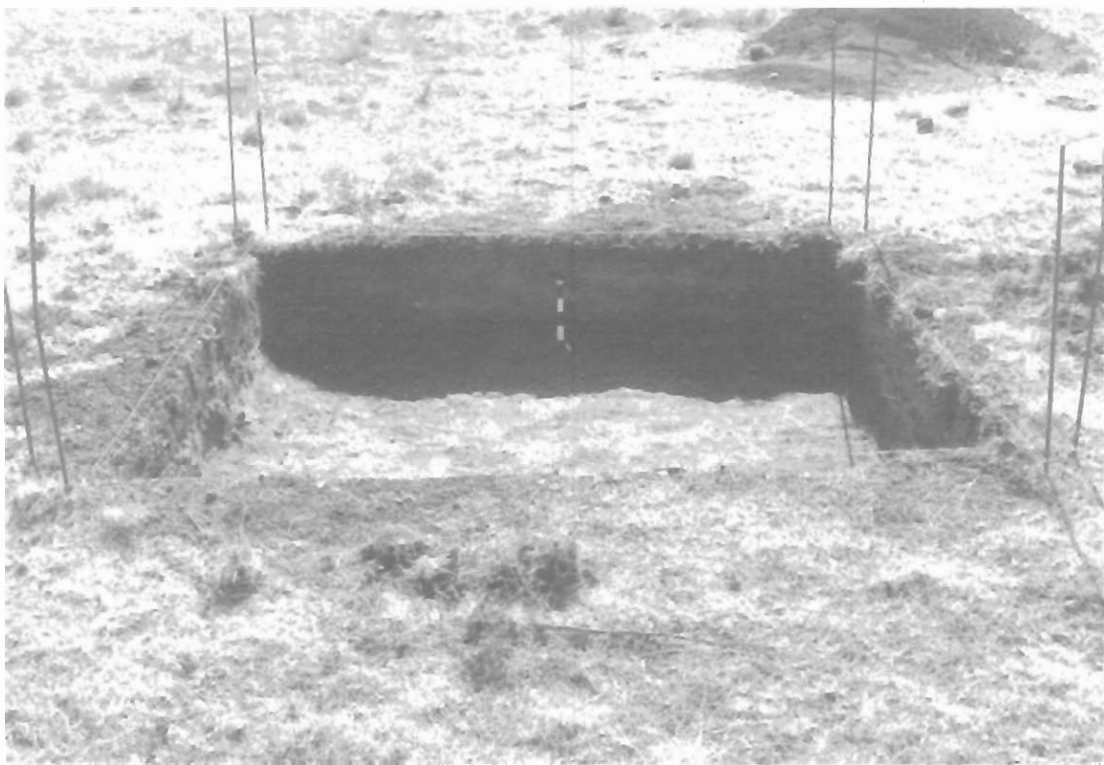


Fig. 6. Excavation 5. ash midden.

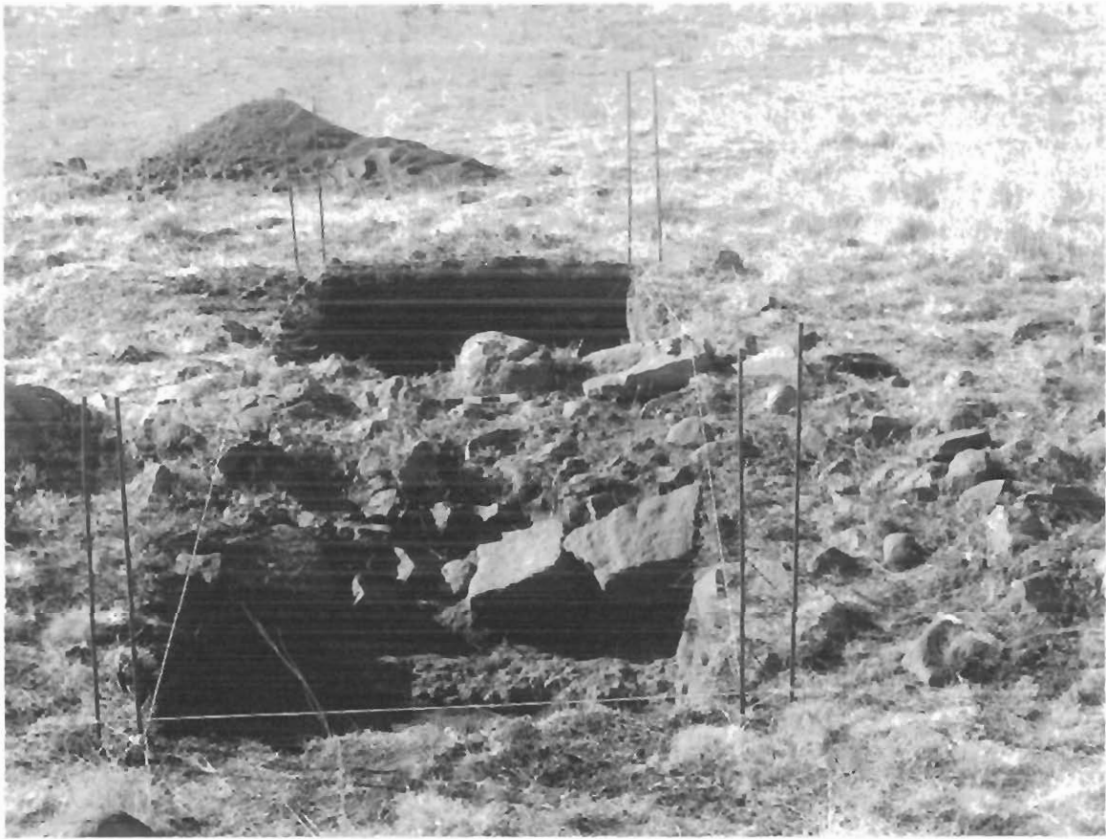


Fig. 7. Excavation 6, stone wall.



Fig. 8. Excavation 6, ash midden.



Fig. 9. Remains of granary in Excavation 6.

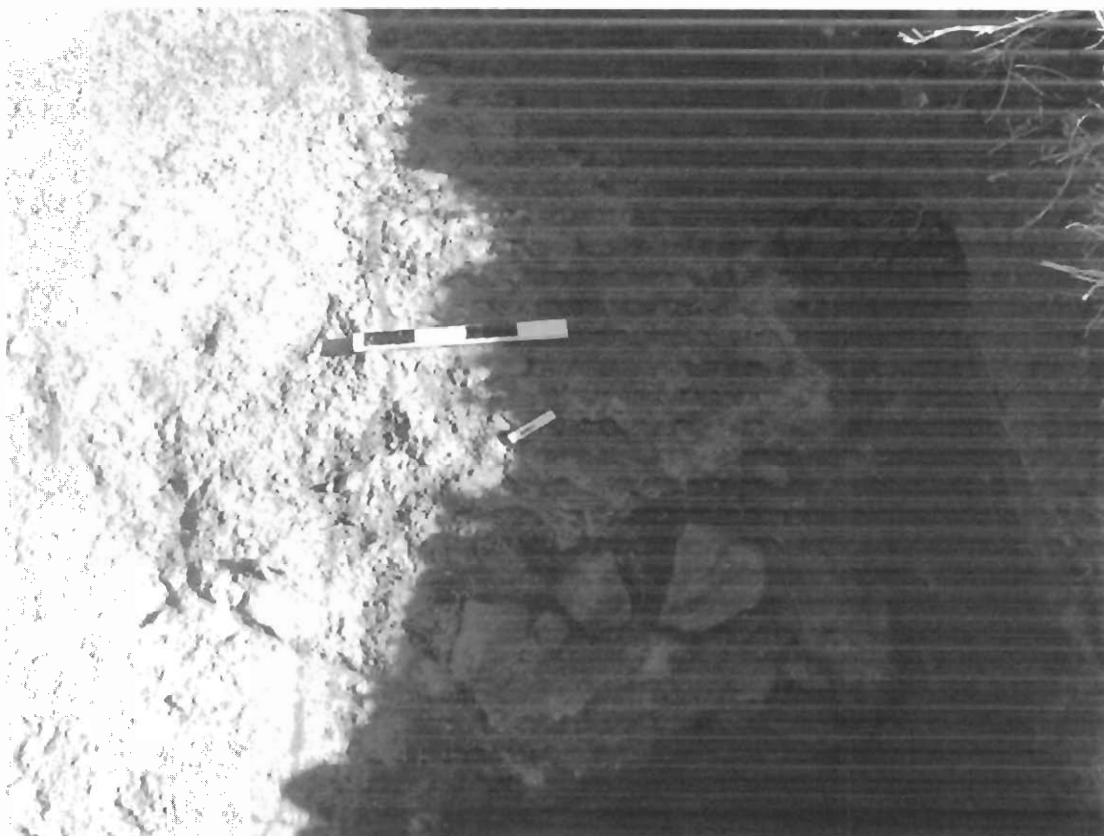


Fig. 10. Clay, dung and stone platform. Excavation 6.



Fig. 11. Excavation 7.



Fig. 12. Stone circle in Excavation 7.

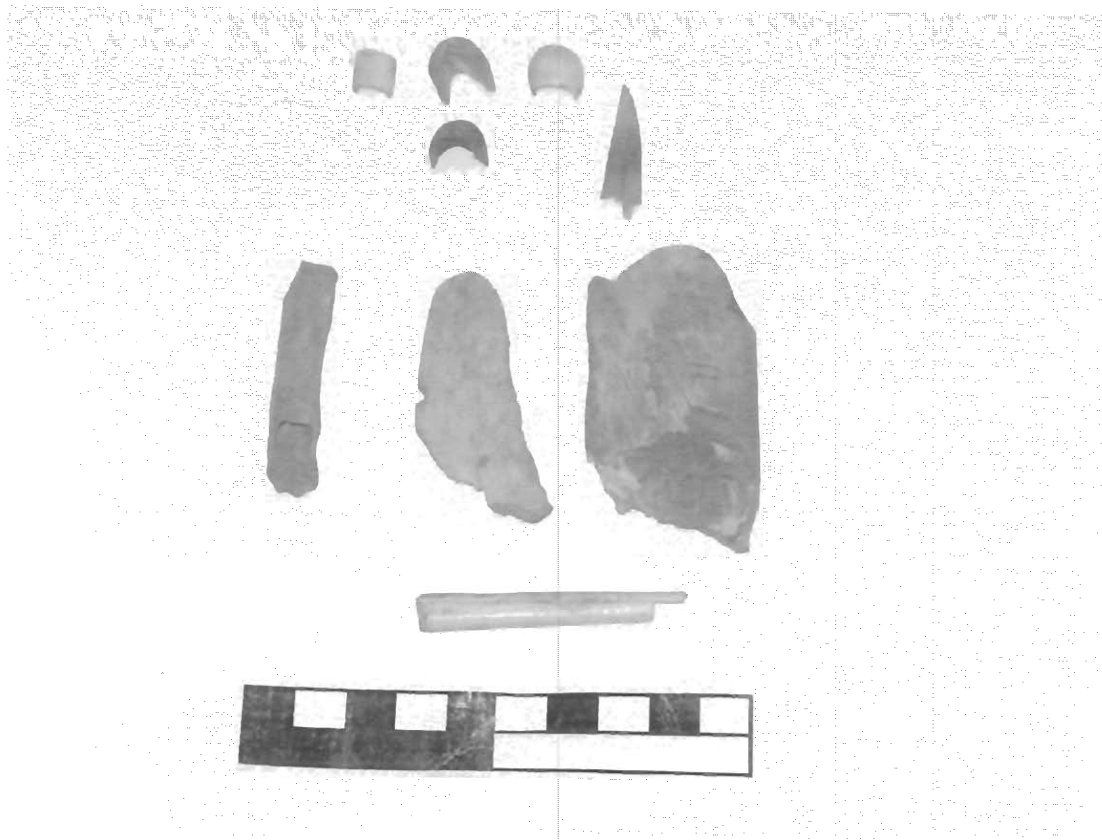


Fig. 13. Worked bone, including bone beads, a whistle, a pendant, part of a needle and scrapers.



Fig. 14. Hippo tusk fragment from Excavation 1.



Fig. 15. Worked pieces of pottery (spindles and scrapers) and fragments of clay figurines.



Fig. 16. Undecorated ceramics.

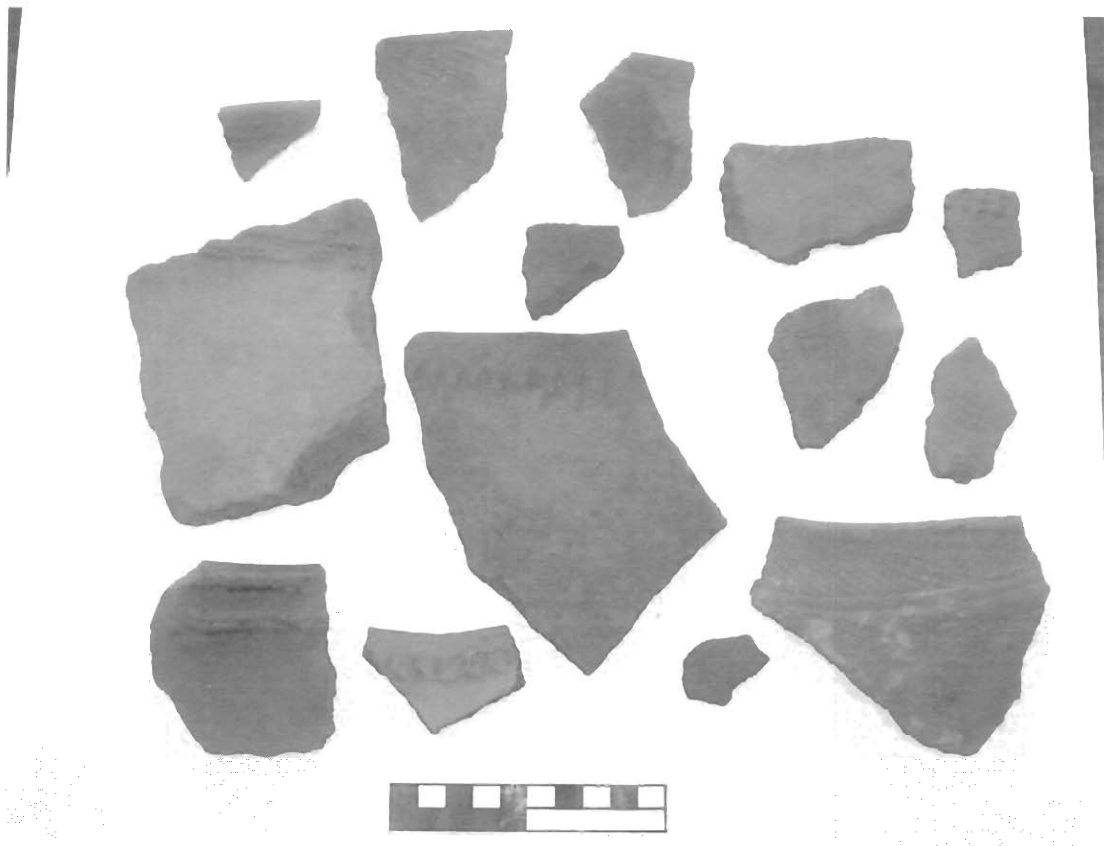


Fig. 17. Decorated ceramics from various excavations.

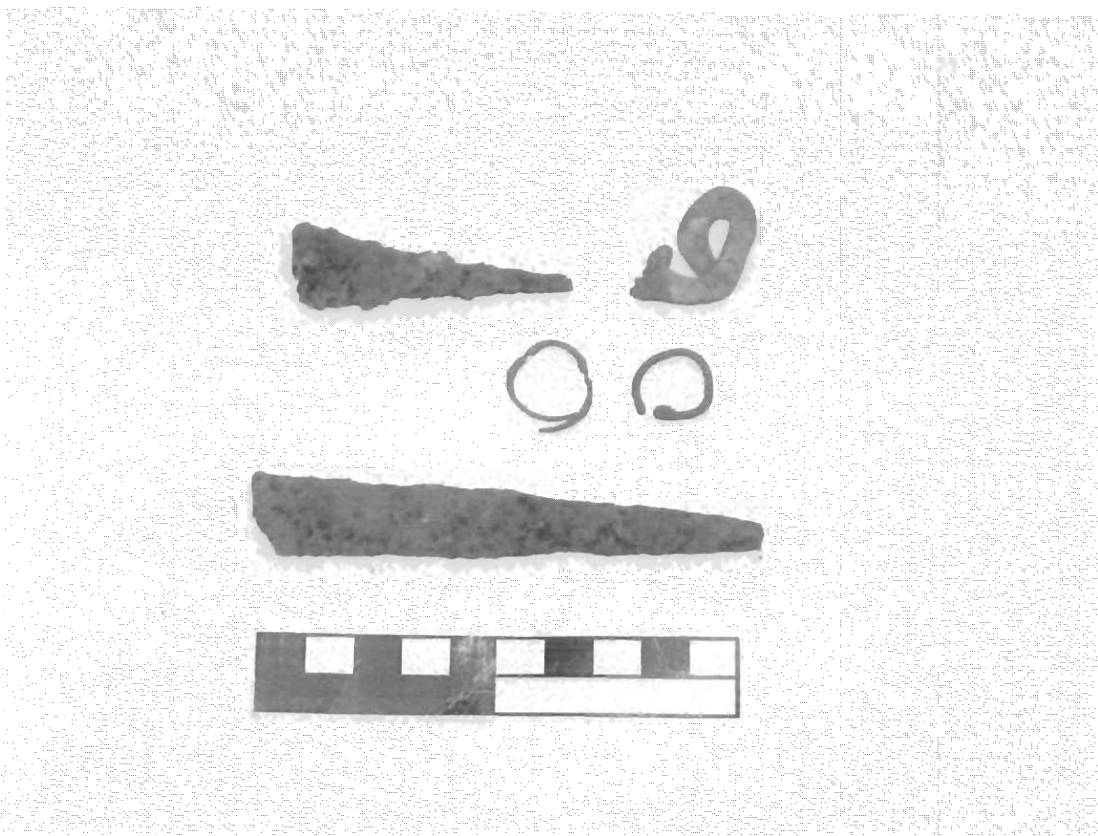


Fig. 18. Metal objects found in the excavations. Note the two copper earrings.



Fig. 19. Various stone tools. Note the red ochre smear on the grinding stone.



Fig. 20. Shell fragments and OES beads.

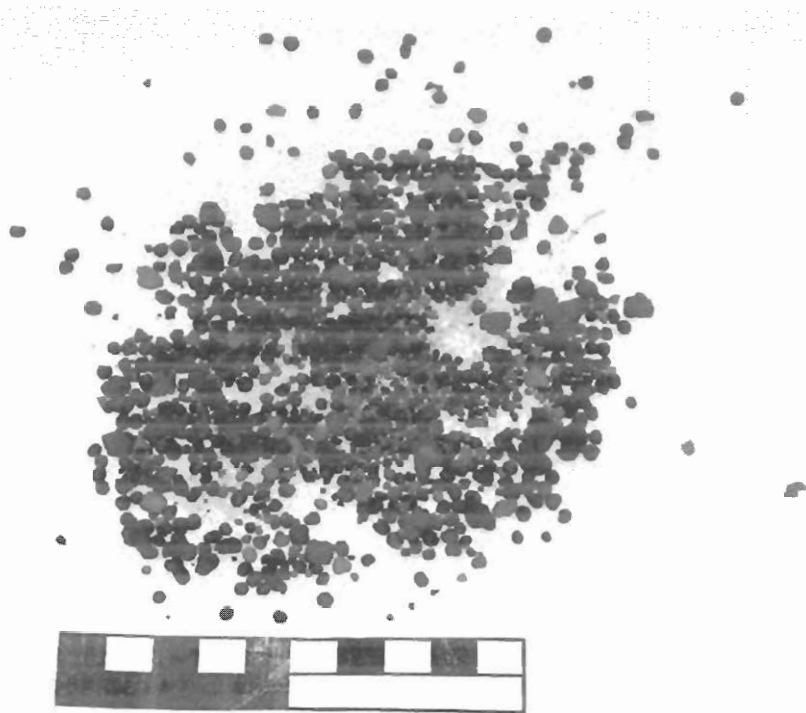


Fig. 21. Some of the burnt sorghum seeds from the granary in Excavation 6.



Fig. 22. Infant burial, Excavation 3. Note the disturbed and broken nature of the skeletal remains.

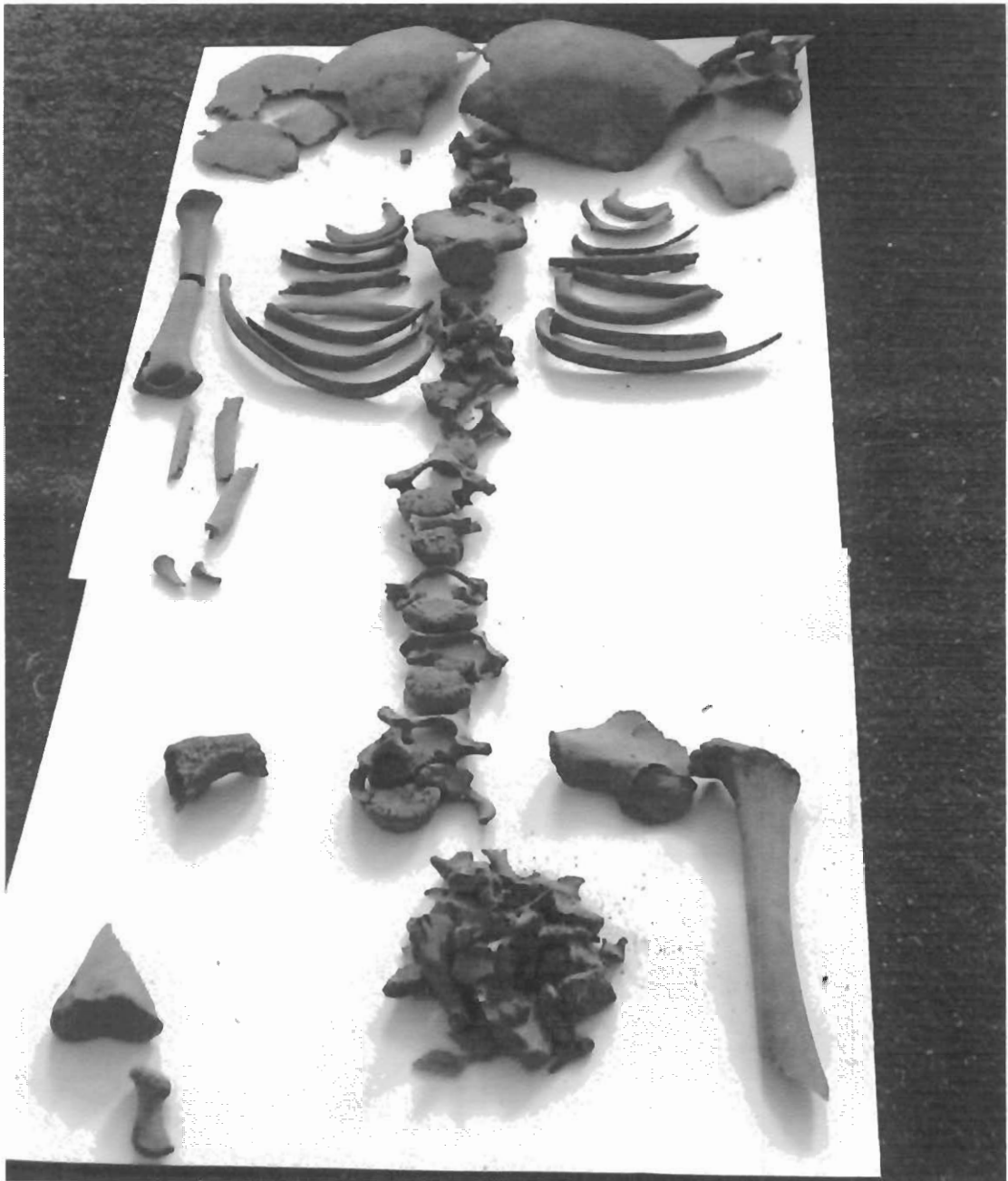
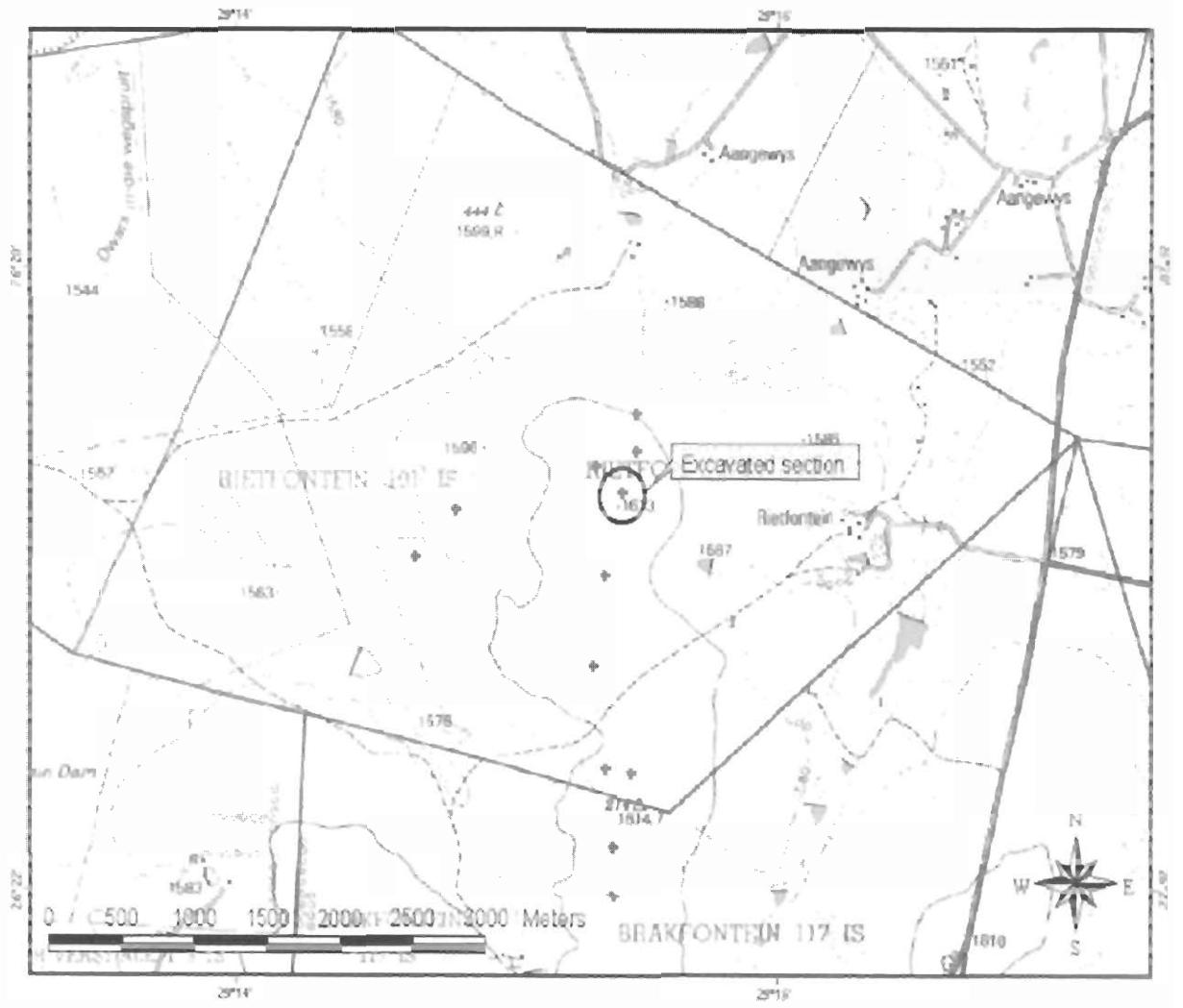


Fig. 23. The fragmentary skeleton from Excavation 3 packed out after removal. No teeth, mandibles and maxillas or phalanges were recovered at all.

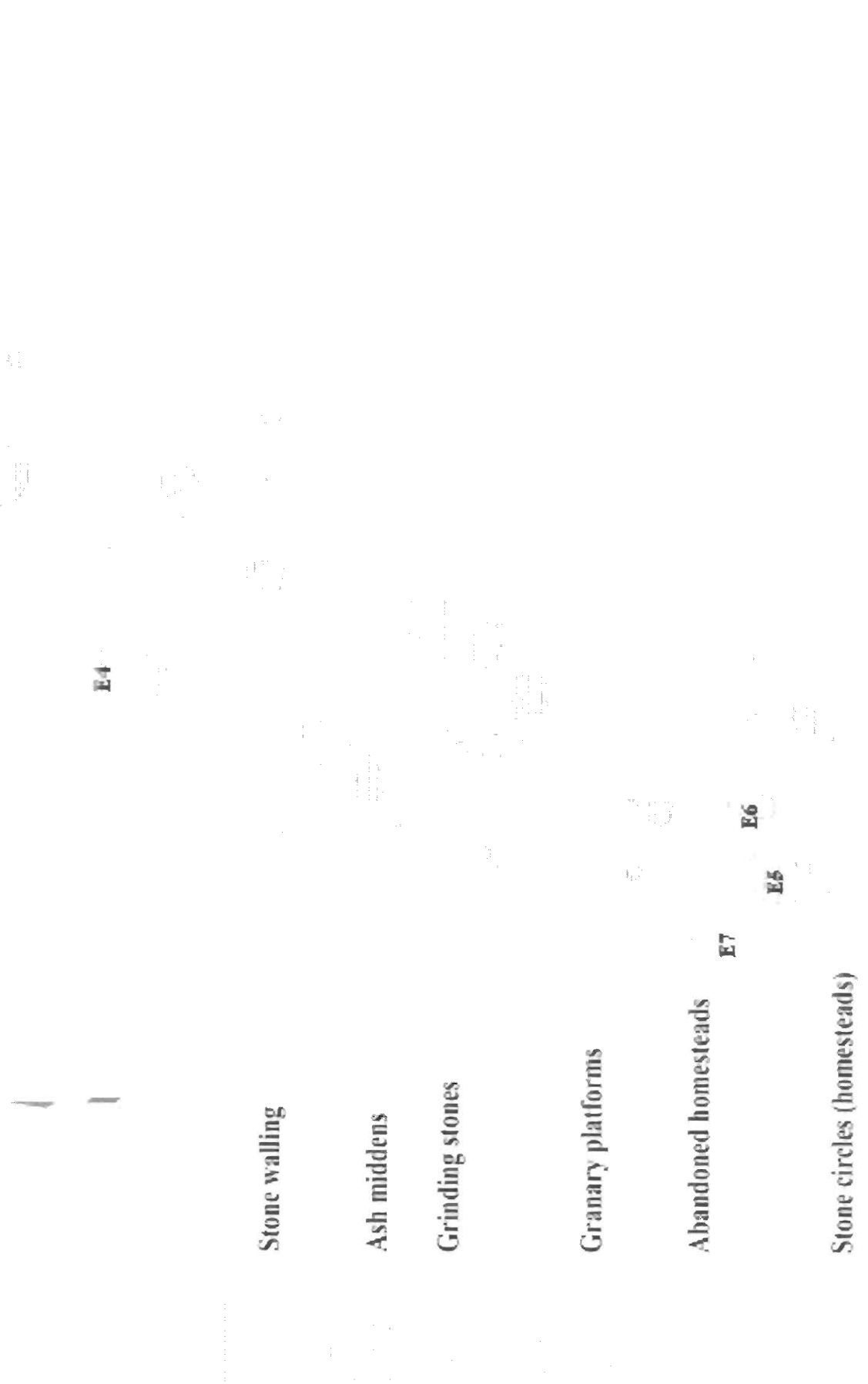


Fig. 24. The bone and stone pendants found with the burial. The were presumably hung around the neck of the individual, as they were found bunched together around the atlas and axis of the skeleton.

**APPENDIX 2 – AREA MAP AND DRAWING OF THE SETTLEMENT
INDICATING THE LOCATIONS OF THE
VARIOUS EXCAVATIONS**



KRIFONTLEIN SETTLEMENT COMPLEX
SETTLEMENT A
KRIEL DISTRICT
MPUMALANGA
SCALE 1:1000



Stone walling

Ash middens

Grinding stones

Granary platforms

Abandoned homesteads

Stone circles (homesteads)

APPENDIX 3 – FAUNAL SPECIES LIST

Canidae

Large carnivore

Viverridae (**Mongoose**)

Equus burchelli (**Zebra**)

Hippopotamus amphibious (**Hippo**)

Bos Taurus (**Cattle**)

Ovis aries (**Sheep**)

cf *Ovis aries*

Capra hircus (**Goat**)

cf *Capra hircus*

Sylvicapra grimmia (**Duiker**)

cf *Sylvicapra grimmia*

Aepyceros melampus (**Impala**)

Bov I

Bov II

Bov III

Rodent

cf Lagomorph

Francolin size bird

Struthio camelus (**Ostrich**)

Frog/Toad

Achatina sp

Terrestrial gastropod