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**REPORT ON THE EXCAVATION AND ANALYSIS OF HUMAN
REMAINS UP145 FROM SITE 2229 AB 89 (MAP26), FARM
Greefswald 37MS, LIMPOPO VALLEY NATIONAL PARK,
NORTHERN PROVINCE**

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This report is submitted in fulfillment of the provisions set in the South African Heritage Resources Agency permit no. 80/00/06/002/51 and deals with the rescue excavation on 2000/09/26-29 of human remains exposed by erosion located at 22°13'06.3" South and 029°21'32.7" East (GPS) on the Farm Greefswald 37 MS, Limpopo Valley National Park, Northern Province.

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1. Introduction

During the Vhembe/Dongola Archaeological Task Group meeting of 5-7 May 2000 Prof A Meyer (Department of Anthropology and Archaeology, University of Pretoria) reported that a partially uncovered human skeleton was found by him during the previous field season in which he conducted various field surveys. The location of the find was visited on 7 May 2000. The human remains were uncovered by erosion caused by a vehicle track crossing the site (2229 AB 89) designated as MAP26 in Meyer's survey. At the time of the discovery Meyer covered the remains with sandbags and rocks to prevent further damage. Once these were removed a poorly preserved human pelvis, tibia and radius were visible. The location of the remains was roughly in the center of an area where the presence of former habitation is indicated by disturbed vegetation.

Prof TN Huffman (Department of Archaeology, University of the Witwatersrand), Mr J Verhoef (SANParks) and Me M Leslie (SAHRA) indicated that the remains be investigated in the context of the site and advised that a rescue excavation be conducted to recover the remains in order to prevent further damage. An area of 3X3 m around the remains should also be excavated to provide preliminary information on the site and to provide cultural context for the remains. All further work at the site should be conducted in co-operation with Prof Meyer.

The excavation permit issued by SAHRA to enable the rescue of the remains also reflected these conditions. The granting of a permit by SAHRA and the decision to conduct a rescue excavation of the remains was ratified by the ATG at a meeting of 21

July 2000 after the graves and human remains issue and new legislation applicable were discussed at length. The rights of *bona fide* ancestral communities over the remains were recognized.

After the remains were observed during the first site visit they were again covered to protect them from damage until the rescue excavation could be conducted. The small erosion ditches which formed in the vehicle tracks were also stabilized with rocks and earth to prevent further erosion in the vicinity of the remains.

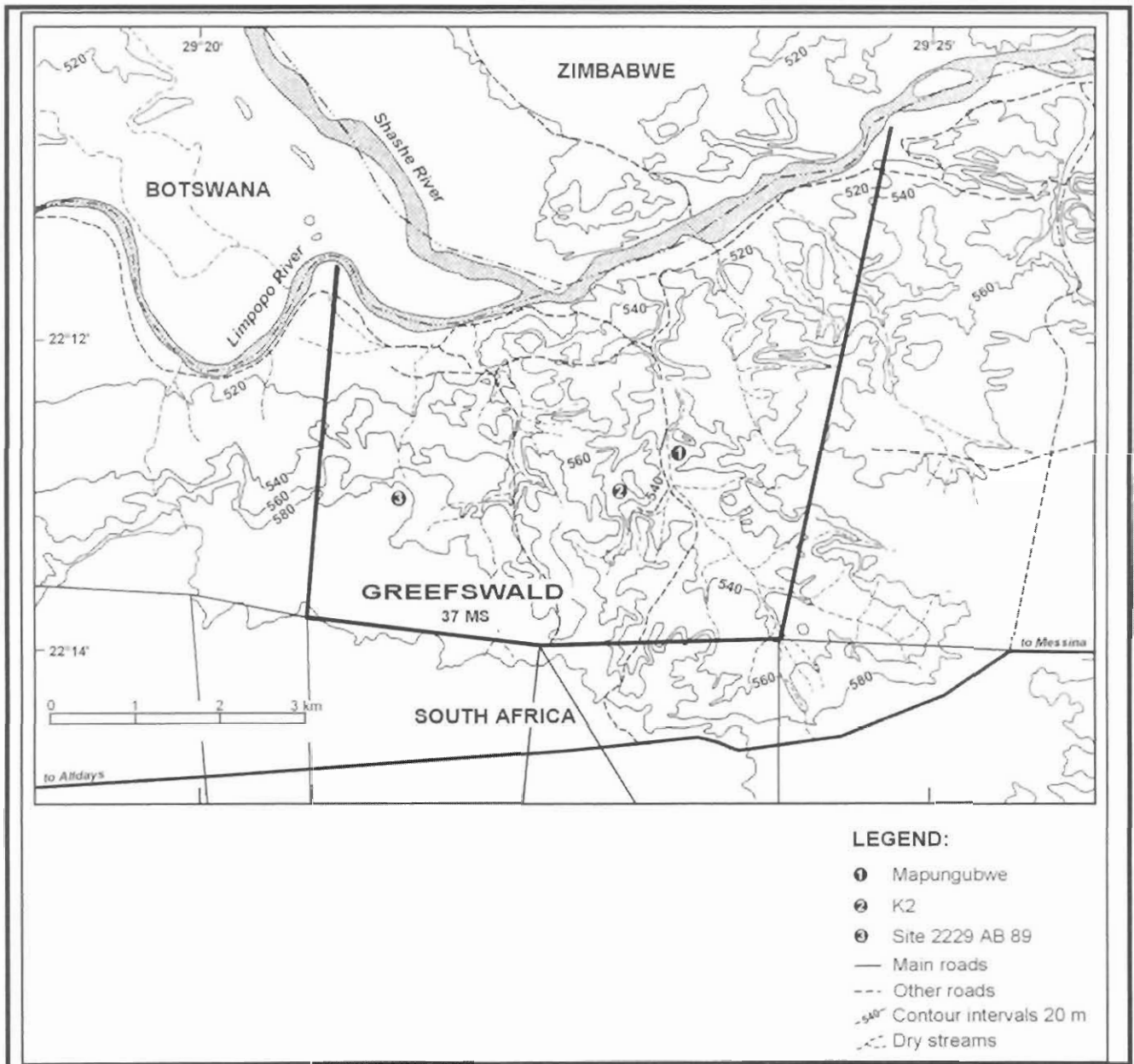
1. Aims of the study

The aim of the investigation was the timely rescue, documentation and analysis of the exposed human remains in order to prevent further damage. The investigation also set out to obtain preliminary information on the site in order to provide a cultural context for the remains to enable the interpretation thereof.

2. Location of the study area

The site is located on a low sandstone ridge running approximately north-west to south-east. This ridge is bordered by a sandstone cliff on the north-eastern side and forms part of the low plateau bordering on the Limpopo flood plain to the north. The site is a few kilometers south of the Limpopo/Shashe confluence on the farm Greefswald 37 MS, near Alldays in the Messina district of the Northern Province. The farm forms part of the newly proclaimed Limpopo Valley National Park. The human remains were found at 22°13'06.3" South and 029°21'32.7" East (GPS)(Fig. 1).

Figure 1. The location of Site 2229 AB 89 adapted from Meyer (1998).



3. Context of the study area

The study area consists of typical Karoo system sandstone hills and ridges commonly occurring in the central-west Limpopo valley. The climate is currently arid sub-tropical with sparse summer rainfall (Meyer, 1998). The vegetation is classified as the north-western variation of Mopani veldt by Acocks (1988). For further detailed

aspects of the current natural environment pertaining to geology, climate, flora and fauna refer Meyer (1998:4).

According to Meyer (1998) evidence of early, Middle and Late Stone Age habitation of the Greefswald area have been found. In rock shelters in the sandstone cliff bordering the north-eastern side of site 2229 AB 89 some rock paintings occur. Meyer (1998) identifies the Sarwa hunter gatherer communities as responsible for rock paintings in the area. Meyer (1998) also reports evidence of Iron Age habitation similar to Early Iron Age Happy Rest as well as Zhizo (dating between 800 AD and 1000 AD) in the area. The most prominent culture in the area was the K2/Mapungubwe habitation dating to 1000 AD to 1300 AD. Small Iron Age sites postdating Mapungubwe and K2 have also been recorded on Greefswald. In historical times Lea and Twamamba communities, related to the Venda and Shona-speaking peoples are reported to have settled in the area. After 1700 AD Sotho-speaking people also settled in the general vicinity. During the nineteenth century European settlers arrived and established frontier economic activities (Meyer, 1998).

According to Meyer (pers. com.) the material remains and spatial organization of site 2229 AB 89 is typically K2 and is also associated with copper working. Huffman also assigned the site to the K2 ceramic period during his survey (Huffman, *et. al.*, 2001)

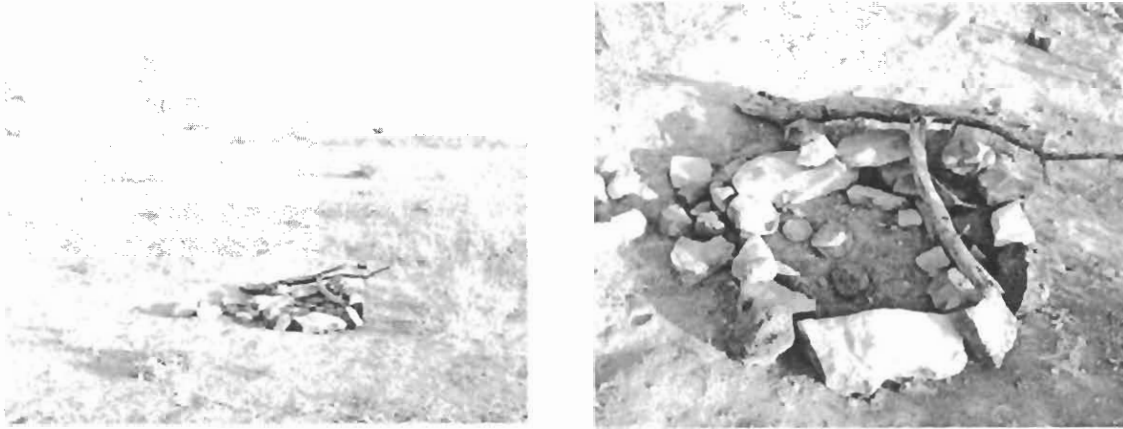
5. Methods and materials

5.1. Methods of excavation

A base line oriented (252° east of north) along the erosion ditch formed by the vehicle track and passing through the middle of the exposed human remains provided for a measured survey of the spatial features of the site. The datum point was located at $22^{\circ}13'13''$ south and $029^{\circ}21'22''$ east (GPS). Due to the permit conditions only a limited surface collection from the direct vicinity of the exposed human remains were made.

The human remains were uncovered by removing the sandbags, rocks and branches that were used to prevent further erosion of the find (Fig. 2). A 3x3 m excavation block (designated as MAP26 TS1), with the remains in the middle, was put out on the base line. Excavation by trowel and dustpan commenced from the northern side of the block to an arbitrary depth of 15 cm below the northern side surface (MAP26 TS1 Level(L)1). Identifiable cultural remains were left in situ until they were documented before they were removed. All excavated materials were screened through a 5 and 1.5 mm steel mesh sieve and sorted by hand into artifact types. The human remains were cleaned in situ but left in place. A measured drawing and black and white and color slide photographs were used to document the features of TS1 at this depth (bottom L1).

Figure 2. Sandbags, rocks and branches used to prevent further erosion damage to UP145.



At this stage the individual recovery of the human skeletal elements commenced together with the excavation of the northern half of TS1 (Level (L) 2). At a depth of 25 cm below the surface the deposit was culturally sterile. By removing the individual elements of the skeleton more human remains were uncovered. These were cleaned and documented *in situ* and excavated.

All human remains designated as UP145, according to the University of Pretoria catalogue, and cultural material from MAP26 TS1 were cleaned and securely packed for transportation and laboratory analysis.

The excavation was backfilled and the erosion ditches and excavation were stabilized with rocks and tree branches to prevent erosion of undisturbed deposits.

5.2. Methods of analysis

Human skeletal remains

The techniques that were applied were aimed at the reconstruction of the individual rather than the study of populations. The only parallel methodology that exists are the techniques of forensic anthropology that also aims to ascertain the individual characteristics of the recovered remains (Krogman and Iscan, 1986). Where possible deductions regarding pathology, health and other indicators of stress were considered in an interpretation of evidence. The data gathered during analysis were recorded in a suitable format such as that proposed by Buikstra and Ubelaker (1994) for remains that are to be reinterred.

The skeleton was cleaned, studied and measured. Although only a brief report, mostly reflecting on age, sex, racial affinity and diseases are given in this report, more detail (such as metric data) on the skeleton is available if needed.

In the analysis of the skeleton, standard anthropological techniques and measurements were used. South African data were used as far as possible and available for the determination of demographic characteristics. Age was determined mainly with the help of dental eruption and development and epiphyseal closure (Ferembach *et al* 1980; Buikstra & Ubelaker 1994, Krogman & Iscan 1986).

Sex was determined using the non-metric characteristics of the pelvis, mandible (Loth & Henneberg 1996) and skull (Ferembach *et al* 1980, Krogman & Iscan 1986), as well as metric data from the humerus (Steyn & Iscan 1999) and femur (Iscan, unpublished

data). Population affinity was assessed with the help of non-metric and metric data from the skull and mandible (De Villiers 1968; Iscan & Steyn 1999). For purposes of determining ante-mortem stature, the formulae for South African Blacks, developed by Lundy & Feldesman (1987), were used.

Pathological changes to the bones were assessed. Information from text books by Ortner and Putschar (1981), Steinbock (1976) and Aufderheide & Rodriguez-Martin (1998) were used. No special investigations, such as X-rays, were employed.

Analysis of animal bone

The comparative skeletal collection of the Vertebrate Unit at the Transvaal Museum, Northern Flagship Institute (NFI) was used to identify the faunal material. The bone fragments recovered from the excavation were sorted into identifiable and unidentifiable pieces. All the non-identifiable bone fragments were counted and weighed. Alteration to the bone was noted where it occurred.

The identifiable faunal material was sorted into animal groups, and within each animal group into cranial and post cranial remains. Where faunal material was too fragmentary to identify to species level, the material was grouped into small, medium or large carnivore, reptile or bird, whilst the bovid fragments were grouped into four size classes (Bov I – Bov IV).

A numerical catalogue system was set up for the identifiable faunal material. Data was recorded on printed cards, each card containing all the relevant information about individual bones or a group of bones. Identifiable bones were marked with a

permanent pen. The number of Identified Skeletal Parts (NISP), Quantifiable Skeletal Parts (QSP) (Plug 1988; De Wet 1993; Beukes 2001) and Minimum Number of Individuals (MNI), were used to quantify material.

Artifact analysis

No specialist analysis of materials were conducted. Where possible the recovered materials were compared with applicable authoritative publications. Recovered materials were cleaned accessioned and sorted into artifact classes. Where possible these were identified.

Typological analyses of lithic artifacts recovered from the site were done to provide a relative date for the artifacts, and where possible, assign them to industries. It was, however, impossible to give an absolute date for these artifacts, other than relying on contemporary dating methods for the region (i.e. rock art, known dates, archaeological data). Due to an increasing tendency in classification of Stone Age artifacts, the various lithic industries were not dealt with in detail, and only utilitarian classification was attempted with rough estimates as to the industry.

5.3. Curation of remains and associated materials

The human remains and associated materials are currently housed at the Department of Anatomy, School of Medicine, Faculty of Health Sciences, University of Pretoria under the acquisition no. UP145 and are available for restitution as per the described legal process. Communities concerned with the remains are welcome to declare themselves to the University and to take part in managing the remains as part of a collection of similar remains from the associated site complex.

4. Results

6.1. Site survey

An area of disturbed vegetation indicated the extent of the former habitation of the site. A roughly oval shaped area was recorded oriented along a north-easterly axis and bordered by a sandstone cliff (Fig. 3). The area of disturbed vegetation was approximately 150 m long and 130 m wide. Apart from stone circles along the cliff at the north-east no other habitational remains were recognized. No stock enclosure or middens were sufficiently distinct on the surface of the site to ascertain their extent with any certainty. No hut clay or floors were recognized. At the time of the survey the vegetation was very dense due to the rains of February 2000. The lack of archeological visibility of site features might be ascribed to this as well as erosion of these features.

Mainly non-diagnostic pottery shards and stone tools were recovered during the limited surface collection (Refer Table 1).

6.2. Test excavation

The L1 deposit of TS1 consisted of a yellow-gray sand and ash mix with stock enclosure elements. Apart from human remains, *achatina* shell beads, potsherds, lithics and animal bone were recovered from this excavation spit (Refer Table 1). Although concentrations of materials occurred no clear stratification could be observed (Fig. 4 and 5).

Figure 3. Plan of Site 2229 AB 89 showing spatial features and excavation MAP26

TS1.

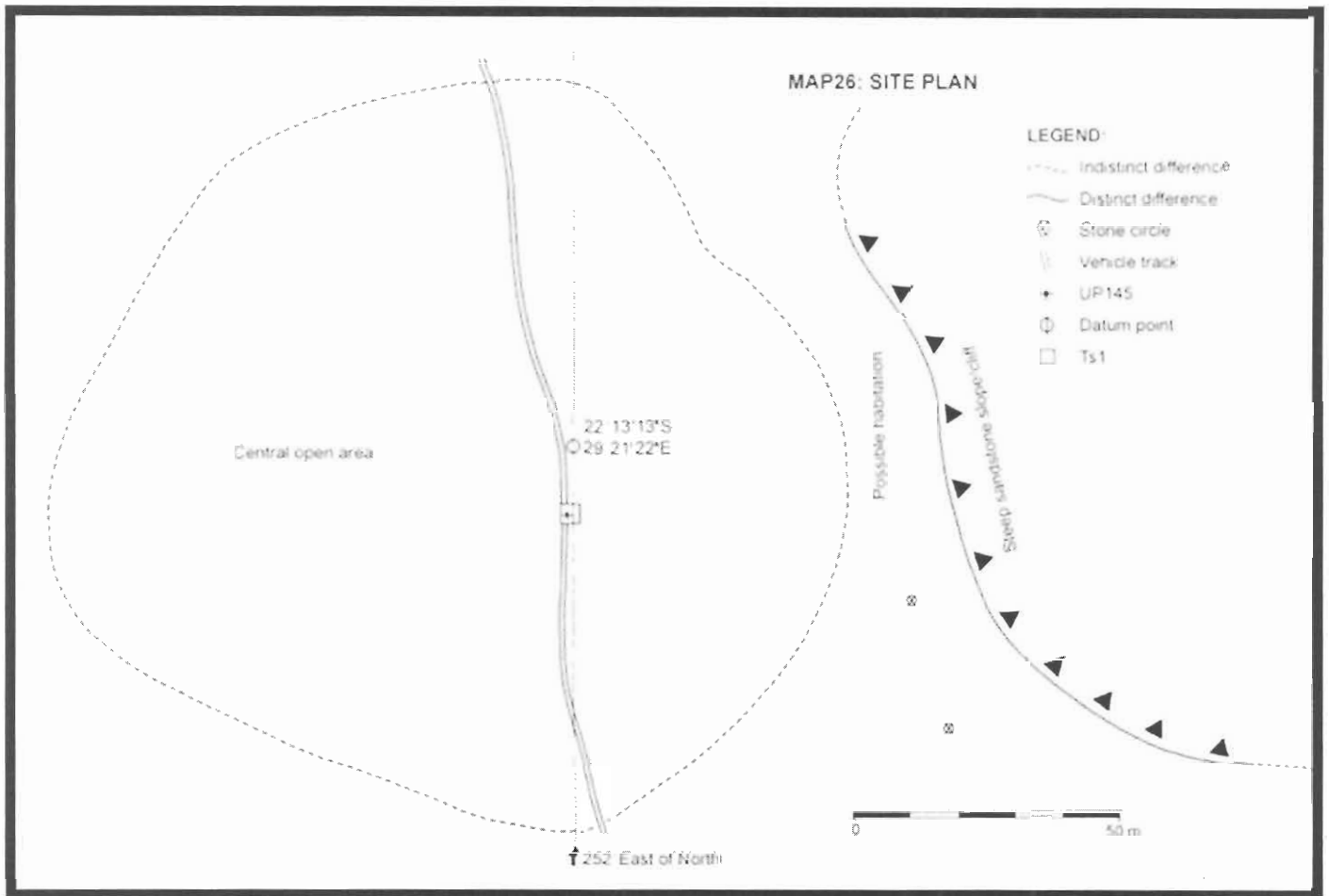
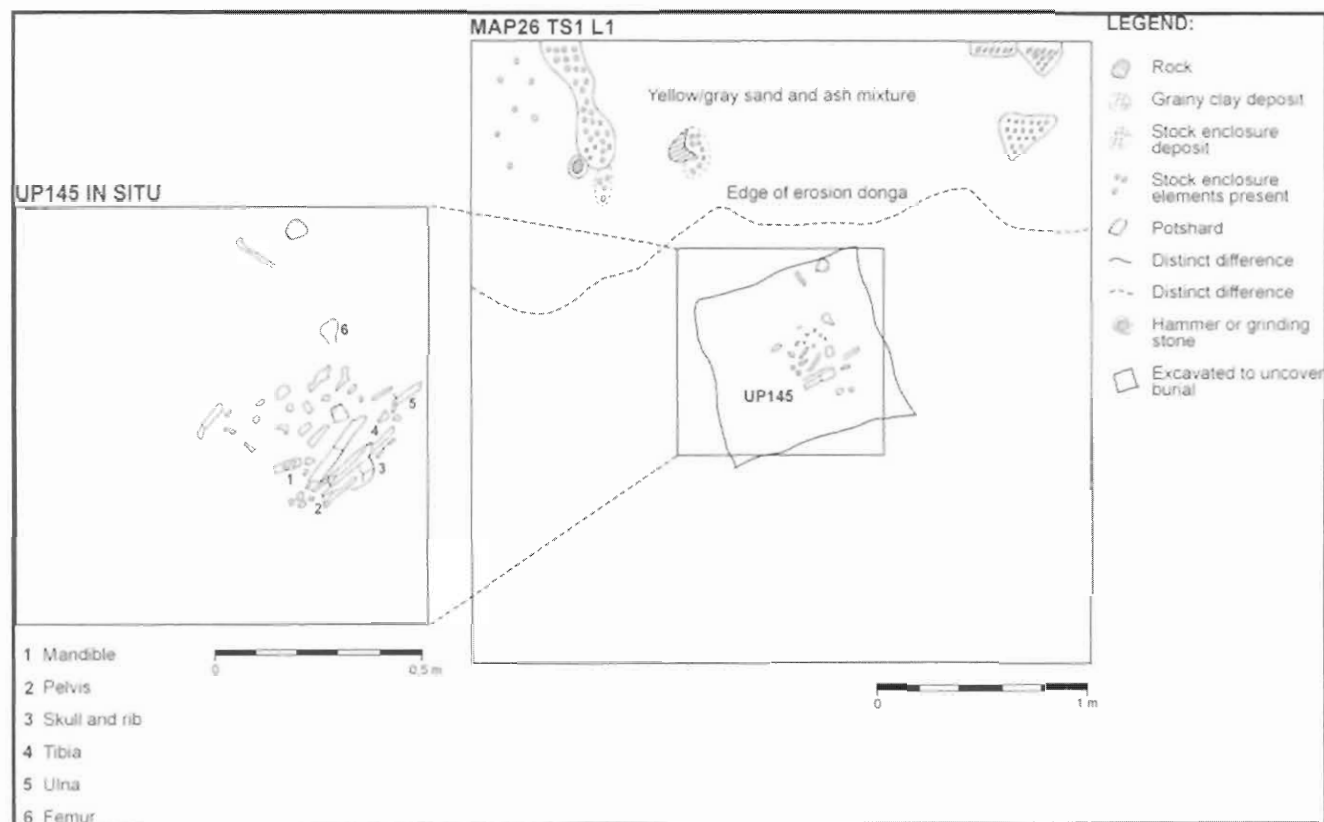


Figure 4. Excavation MAP26 TS1 of Site 2229 AB 89.



The L2 spit of TS1 consisted of the northern half of the excavation block down to a depth of approximately 25 cm. The L2 spit served to uncover the remains further. Approximately 0.5 m to the north and east of remains UP145 human foot bones and potsherds were found. This “concentration” of human bones and potsherds also contained shell beads. This was the only place where these occurred in large numbers. Two human teeth, one of which was mutilated and showed the typical V shaped K2 pattern, were also found in this concentration. It is possible that the potsherds were on top of the remains and were disturbed together with some of the remains. No stratigraphy or clear indications as to the origin of the deposit could be observed.

Figure 5. Burial UP145 partially uncovered by the MAP26 TS1 L1 excavation.

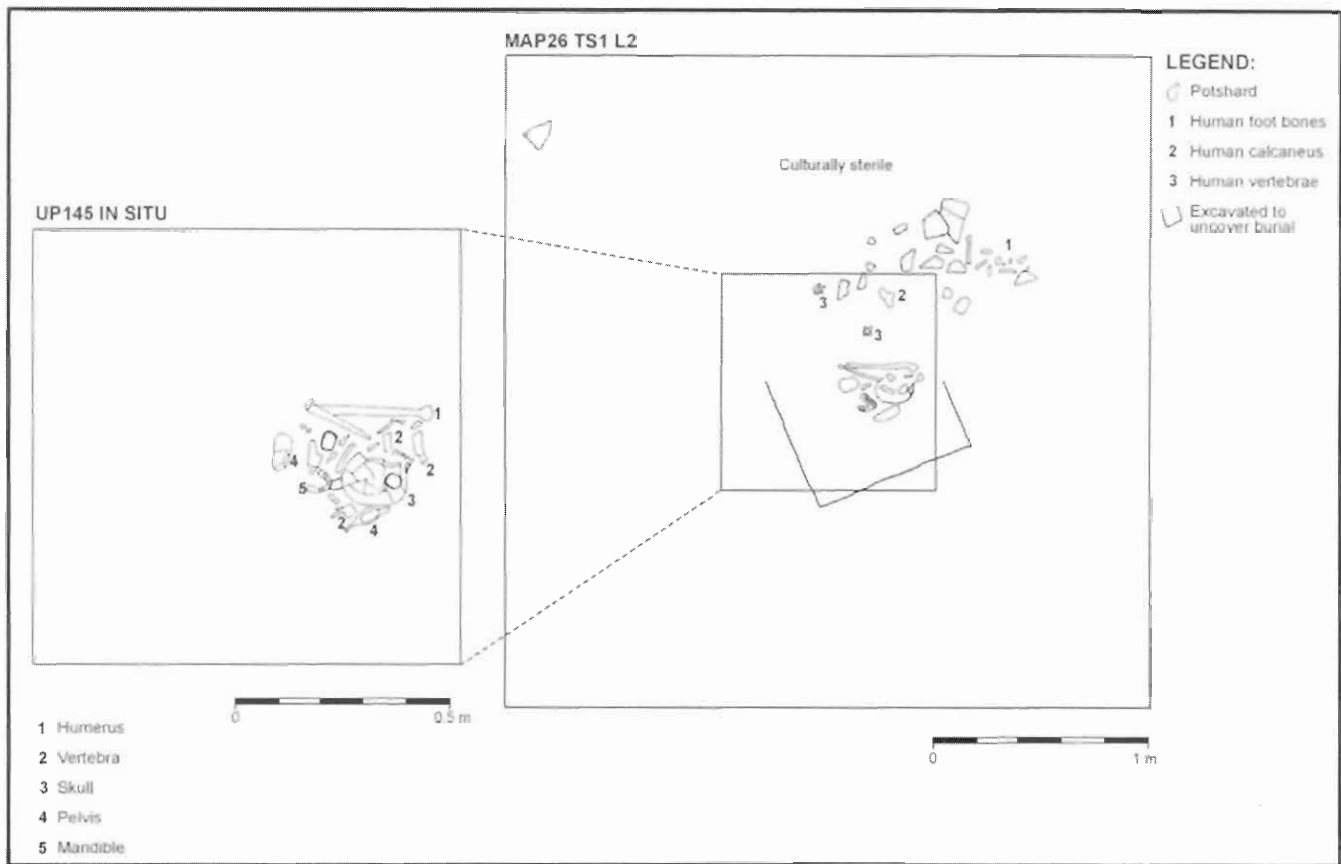


Stock enclosure elements and ash were present in the deposit (Fig. 6 and 7). Apart from human remains, *achatina* shell beads, potsherds, lithics and animal bone were recovered from this excavation spit (Refer Table 1).

Figure 6. Excavation MAP26 TS1 L2 of Site 2229 AB 89.



Figure 7. Burial UP145 further uncovered by the MAP26 TS1 L2 excavation.



6.3. Burial UP145

Several human skeletal elements were found in L1 and the surface of L2 of the MAP26 TS1 excavation and not in close association with the rest of the remains. This points to possible disturbance of the upper part of the burial. The remains were found in a very dense concentration, but in no anatomical association. Although it was very difficult to reconstruct the burial position, partly due to the erosion damage and possible previous disturbance of the burial, it is probable that the bones of the lower limbs were buried in a bundle on top of the bones of the upper limbs and skull which was found at the bottom of the grave. The skeletal elements recovered from deeper in the grave were, without doubt, still *in situ* (Refer Figs. 4-7).

6.4. Human remains UP145

Preservation

The skull was \pm in one piece, but only kept together by the dirt adhering to it (Fig. 8). It was badly cracked and distorted, so that no cranial measurements were possible. The mandible was in tact. Only three complete vertebrae were found, and all the rest were fragmentary. Pelvic, rib, scapular and clavicular fragments were also found. All long bones, with the exception of the right femur and most of the left femur, were represented. Both ulnae and the right humerus were complete. A large number of hand and foot bones were also found. The in tact bone itself was in good condition, and damage only resulted from the traffic passing over the bones.

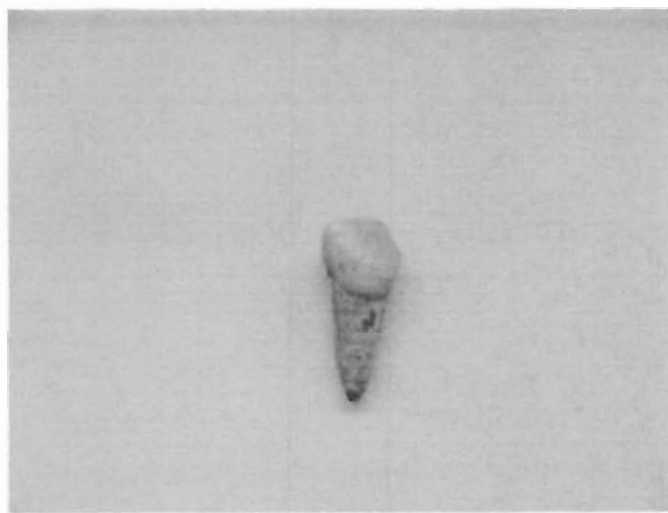
Figure 8.

The skull of UP145 in lateral view.



Figure 9.

The mutilated central incisor of UP145.



Age

The skeleton was clearly that of a young adult individual. The set of permanent teeth had fully erupted in the lower jaw, but the upper jaw lacked third molars. Many of the

epiphyseal lines were still clearly visible (head of the humerus, distal radius, distal ulna, femoral head), and the iliac crests and medial ends of the clavicae were unfused. These features indicate a young individual, probably around 17 - 24 years old (Ferembach *et al.* 1980, Krogman and Iscan 1986).

Sex

Sex could not be determined above all reasonable doubt. The morphological features of the pelvis seemed to indicate a male individual - the sciatic notch was very narrow (a male characteristic). The rest of the skeleton, such as the mandible (Table 2), was delicate. A very tentative diagnosis of male was thus made (Ferembach *et al.* 1980, Krogman and Iscan 1986).

Stature

The ante-mortem stature was calculated with the help of the formulae developed by Lundy and Feldesman (1987). Using the length of the humerus (Table 2), the stature was calculated to about 154 cm.

Dentition

The upper third molars had not erupted, and the upper right second molar and both incisors as well as the lower right premolars, central incisor and left incisors and canine were post-mortem absent. There were no signs of any dental decay, abscessing or enamel hypoplasia. Only the left upper central incisor was present, and it was mutilated in a fashion similar to what is seen in a number of skeletons from K2. The mesial corner of this incisor had been filed away in such a fashion that, had both incisors been present, there would have been a V-shaped gap between these two

incisors (Fig. 9). This type of mutilation is seen in young and older adults in the K2 skeletal collection (Galloway 1959, Gardner 1963, Steyn 1994, Steyn 1995), in both males and females.

Health and lifestyle

No signs of disease or ante-mortem trauma could be found.

6.5. Faunal analysis

Sample size

The MAP26 TS1 excavation yielded a total bone and shell sample of 396 fragments with a mass of 287.7g (Table 3). Only 38 fragments (9.6%) of the total sample were identifiable up to species level, or to animal size class. In Table 3 the total number and mass (g) of the identifiable and unidentifiable fragments are indicated, as well as the number and percentage of burnt bones.

A total of 10 different species could be identified from Site 2229 AB 89. These include animals according to size range, e.g. Bov I-IV, Lagomorphs, Rodent, and shells. (Table 4) (Table according to Meester (1986)).

The majority of the identifiable bones are from domestic animals. The Lagomorphs, Rodent and *Achatina* were most probably self introduced. All the complete bones were measured and the results are available on request.

The recorded information on the sample was too small to provide in-depth insight into the skeletal part representation, fragmentation trends, taphonomy and pathology.

Taphonomy

There is some evidence of butchering (chop mark) practices that can be seen on one of the bones (Table 5). Only one fragment was burnt white indicating that this bone was exposed to temperatures between 700-750 degrees Celsius (Gilchrist and Mytum 1986:33).

Age

Only two *Bos taurus* M2 teeth were identified with an age estimation of between 24-30 months (Class V)(Table 4). No other age estimations could be done because of the small bone sample.

Sex

Sex could not be determined on any of the bone fragments, because of the small bone sample.

Molluscs

One group of terrestrial molluscs was found at Site 2229 AB 89. Shell fragments of terrestrial molluscs (*Achatina* sp) are often found in archaeological deposits in southern Africa (Plug 1990). Eight mollusk fragments were found, constituting 2% of the faunal sample. *Achatina* species are edible and their shells were often used to make beads, but the shells may also be incorporated in the deposit without human

assistance (Plug 1990:204-205). Some *Achatina* shell beads were found with the human remains (Refer Table 1).

6.6. Beads

Achatina shell beads were recovered from the excavation (both L1 and L2 of TS1 and closely associated with UP145). These probably formed part of the burial goods associated with burial UP145. Since the upper part of the burial, where the beads are thought to have been, have been disturbed it is impossible to state this with any certainty.

A single blue green bead of the characteristic K2 type (Wood, 2000) was collected from the surface of TS1 and a few yellow Indo-Pacific beads (Wood, 2000) were found in the excavation (Refer Table 1). The blue and yellow beads would most probably be included in Davidson's Trade Wind Bead Chemical Group.

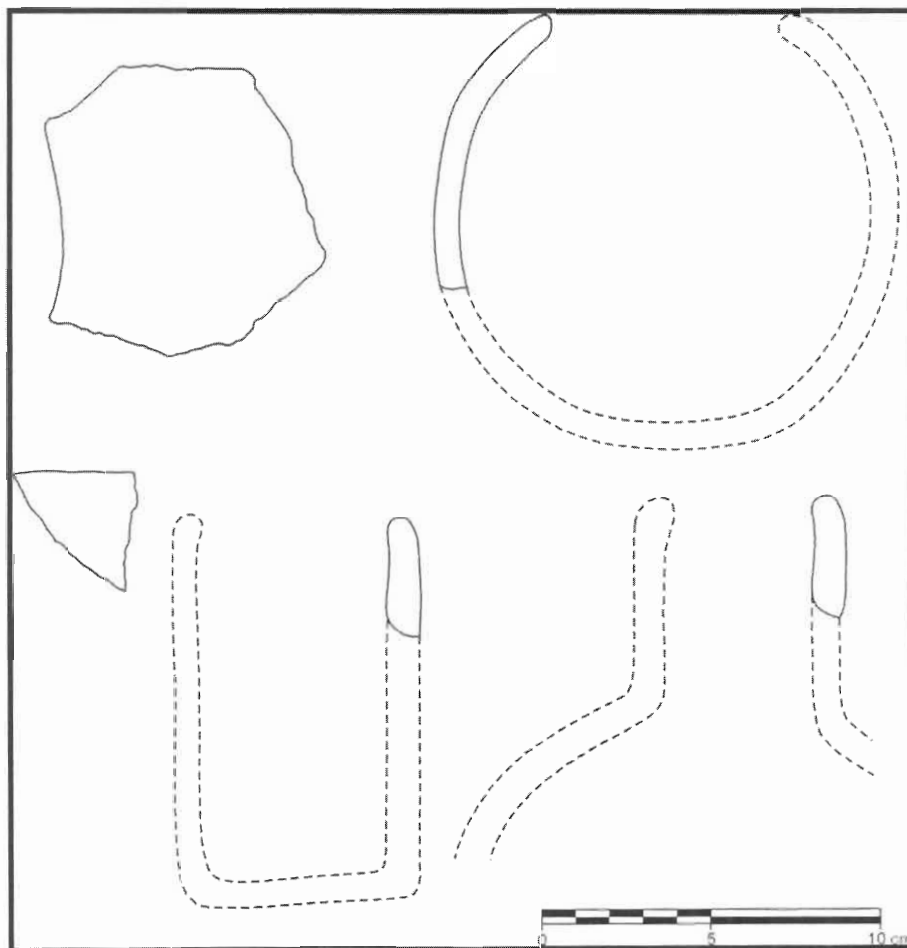
6.7. Ceramics

Very few diagnostic pieces of pottery were recovered. Three decorative patterns, incised diagonal lines, incised arcades and incised triangles/chevrons, were observed (Fig. 10). Three possible ceramic vessel shapes were identified from only two shaped shards that were suitable for this purpose (Fig. 11). While one of these definitely represents a small pot, the other could either be from a beaker or a long necked vessel. All of these shapes and decorative motifs are consistent with a K2 pottery assemblage (Meyer, 1980). No attributes of any pottery tradition/style, other than K2, was identified in the pottery recovered from MAP TS1 of Site 2229 AB 89.

Figure 10. Decorated pottery from Site 2229 AB 89.



Figure 11. Possible ceramic vessel shapes identified at Site 2229 AB 89.



6.8. Lithics (Refer Table 6)

Utilitarian Classification

Lithic technology has developed from the most rudimentary beginnings to sophisticated industries where every tool has its own, specific use. The lithic artifacts found at Site 2229 AB 89 are a clear example of this evolutionary tendency in stone tool manufacture. As mentioned earlier, the use of industries in classifying lithic artifacts are decreasing, and in stead, utilitarian classification is used.

Three types of flakes were found at Site 2229 AB 89: flakes, notched flakes and broken flakes (Fig. 12-14). Flakes are the products struck off a core, which may have been utilized with or without secondary refinement. These could have been used as scrapers, arrowheads, spearheads, etc.

Figure 12. Flakes from MAP26 TS1 and the surface of Site 2229 AB 89. (Both sides shown left picture rotated 90° to the right)

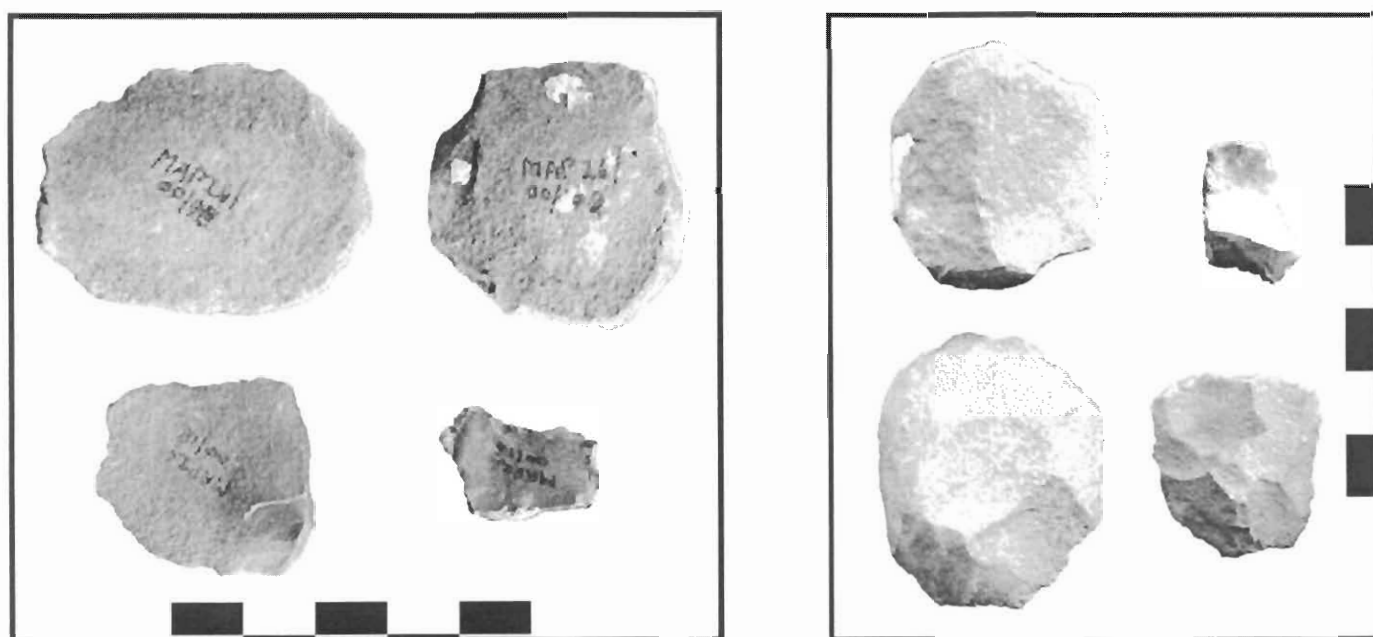


Figure 13. Broken flakes from MAP26 TSI and the surface of Site 2229 AB 89.

(Both sides shown)

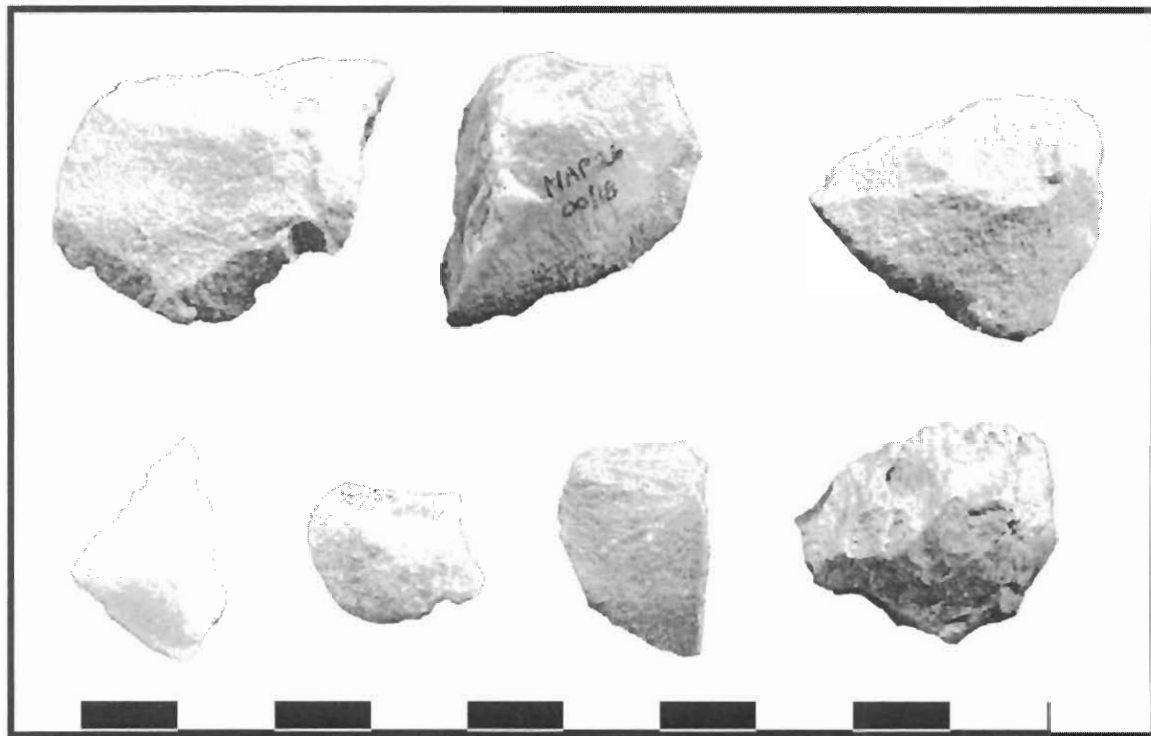
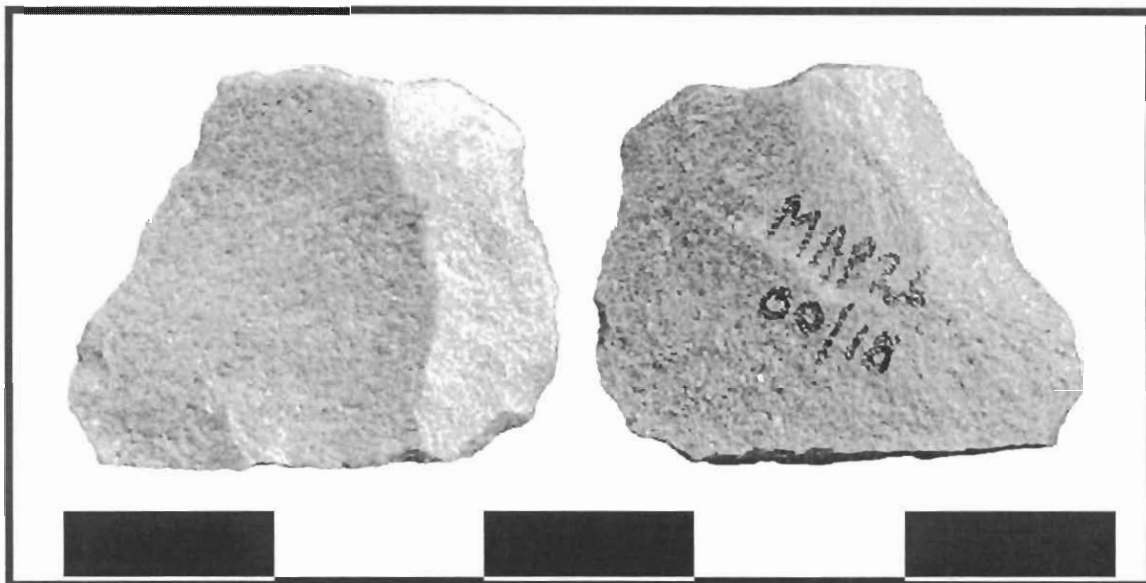


Figure 14. Notched flake from the surface of Site 2229 AB 89. (Both sides shown)



Only one broken blade was recovered during the investigation. The fragment is the proximal end of the blade, i.e. the end of the bowl of percussion (Fig. 15). Blade industries are typical of Late Stone Age lithic technology.

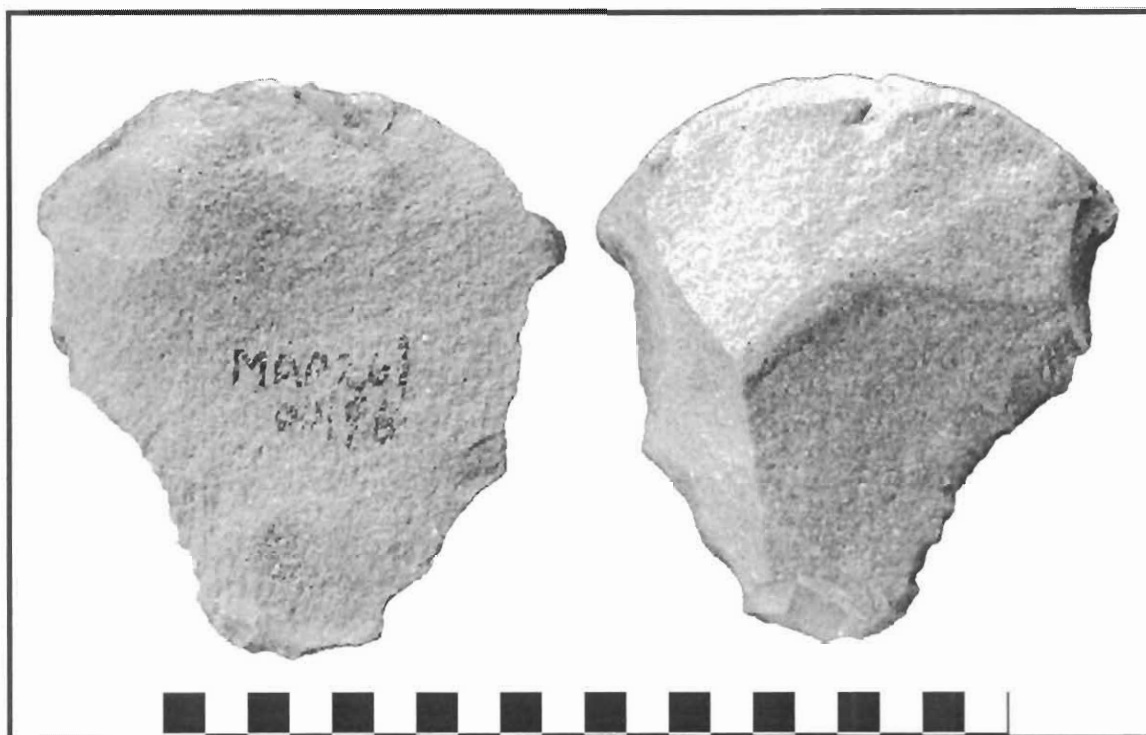
Figure 15. Broken blade from the surface of Site 2229 AB 89. (Both sides shown)



One scraper was recovered from the site, and may be classified as a double sided scraper (Fig. 16). Scrapers can be described as refined flakes with one or more

utilized edges. These tools may have been used for various purposes such as scraping of hides, whittling of wood for spears, or bone tool manufacture.

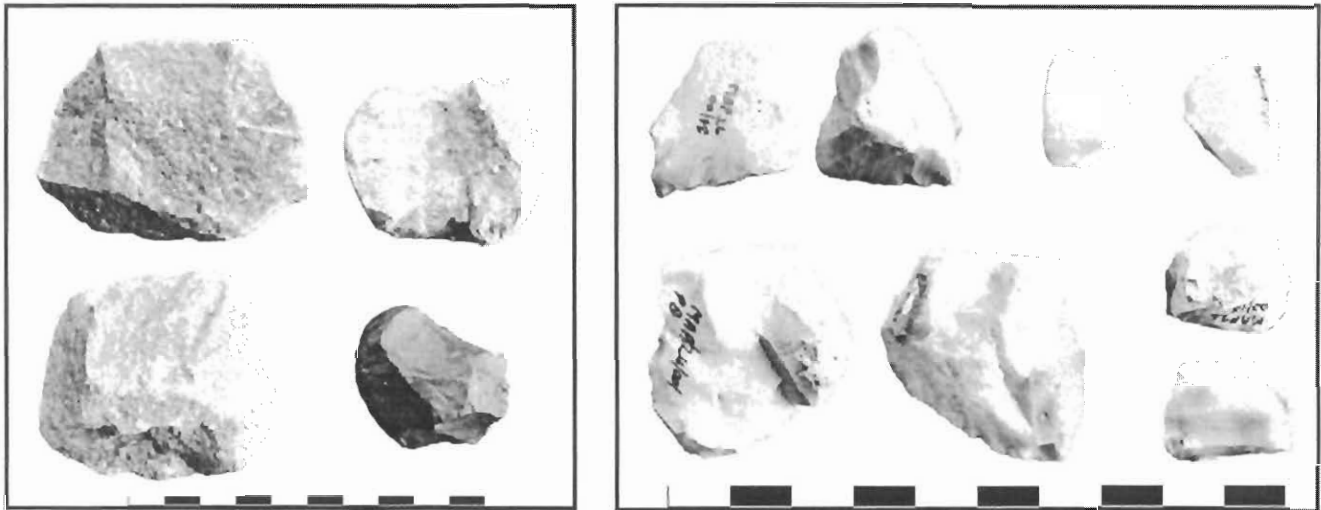
Figure 16. Scraper from the surface of Site 2229 AB 89. (Both sides shown)



The cores found at Site 2229 AB 89 consist of the following: two cores made from upper grindstones; five microlithic cores; one pebble core and; one medium core (Fig. 17). Cores can be classified as any stone from which at least three useable flakes have been struck off. Cores may show signs of extra uses before or after the manufacture of tools.

Figure 17. Cores recovered from MAP26 TS1 and the surface of Site 2229 AB 89.

(Only worked side shown)



Fifteen chunks were collected at the site (Fig. 18). Chunks are waste products with no or little use. Flakes that cause uncertainty as to their use are also included in the chunk category. Chunks are usually flakes or pieces struck off a tool during secondary refinement.

Figure 18. Chunks recovered from MAP26 TS1 and the surface of Site 2229 AB 89.



Dual utility objects collected from the site include one upper grindstone or rubbing stone and two river pebbles, which may have been used as hammer stones, and a small white river pebble that may possibly be an *isifuba*, or a game board piece (Fig. 19-21). These objects may have been used by both the hunter-gatherer and Iron Age populations of the area.

Figure 19. Grind- or rubbing stones from the surface of Site 2229 AB 89.

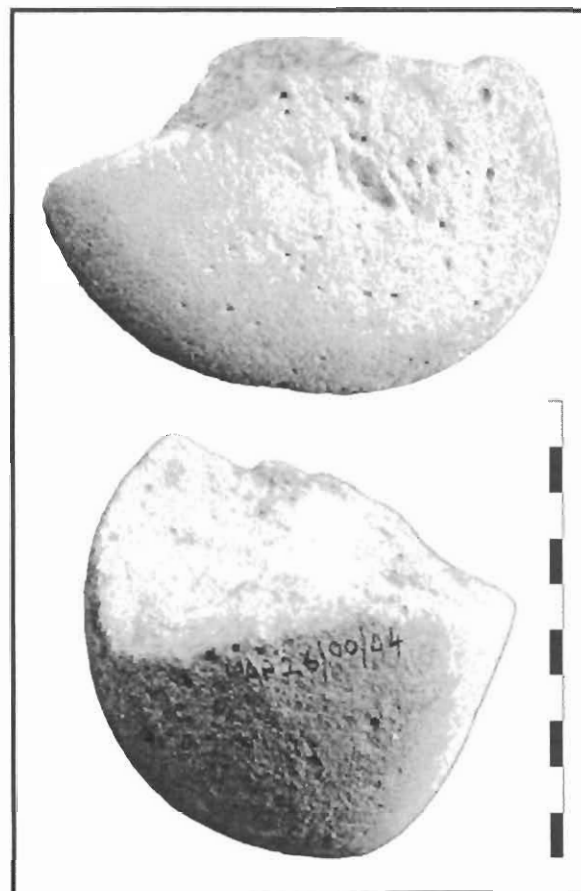


Figure 20. River pebbles from the surface of Site 2229 AB 89. (Both sides)

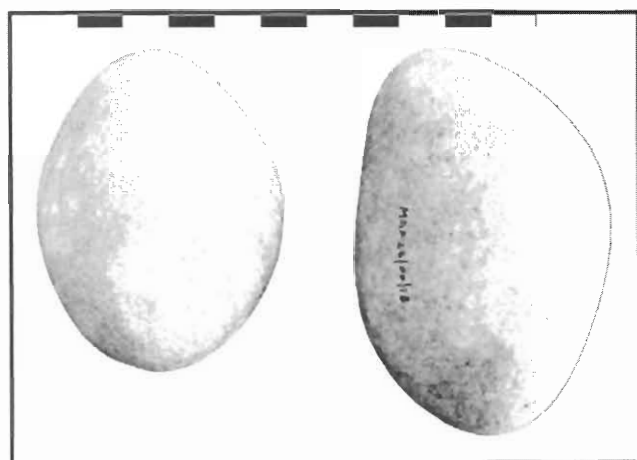
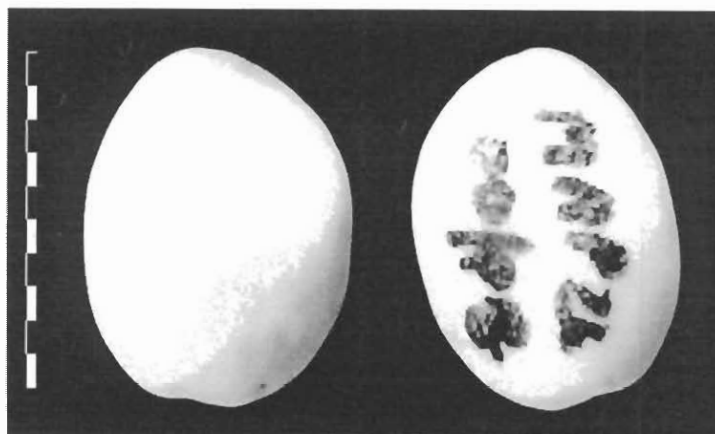


Figure 21. River pebble or possible *isifuba* stone from the surface of Site 2229 AB 89.
(Both sides shown)



6.9. Other materials

A small quantity of metal slag was recovered from L1 of TS1 (Refer Table 1). Two very small pieces of slag show red-brown oxidation which might indicate that they are by-products of iron working. Two small pieces showing green oxidation might indicate copper working at the site.

Fragments of petrified stock enclosure deposit were recovered from the L1 spit of TS1 (Refer Table 1). No analysis or comparison of the collected sample was attempted.

6.10. Radiocarbon dating

Bone from this individual was submitted to the CSIR for dating. The sample yielded a date (Pta-8376) of 900 ± 20 years BP calibrated to 1179(1193)1206 AD with the most probable date in brackets.

6. Conclusion

7.1. Synthesis of results

The grave was very shallow, although it was clear that some of the soil covering it had been washed (or graded) away. Most of the bones were found in a very small area, although one cluster of bones were found about 45 cm away from the main cluster. This last group of bones were probably disturbed by motor vehicle traffic during wet periods when wheel spin occur while driving or by mechanical grading of the road, and re-deposited some distance away from the original group. All bones were damaged, probably due to the heavy vehicles passing over it. The main cluster of bones consisted of a number of human bones, no two of which were articulated. The bones were found together in, anatomically speaking, a totally anatomically random fashion. It did seem as if the bones of the lower limbs were together in the grave above those of the upper limb which were on top of the skull. This may be the result of the passing traffic or grading, but one would presume that vehicles would distribute bones over a large area, rather than concentrating them together in a small 50 cm x 50 cm area. It can thus be postulated that this was a secondary burial i.e. that the body was totally decomposed before the bones were reinterred in this particular location.

No formal grave pit could be identified. A large number of *achatina* shell and glass beads were found in the vicinity of the remains, but not in a particular, concentrated area within the grave. Some potsherds were present. No other burial goods were found.

The excavated remains were those of a young adult individual, probably between 17 and 24 years of age, and possibly male. No signs of disease, dental or otherwise, could be observed. The skeleton was not very well preserved, making a precise analysis difficult. The central incisor had its mesial edge filed, which is a characteristic commonly seen in individuals from the broader Mapungubwe/K2 area.

All the lithic artifacts recovered from site 2229 AB 89 were placed in the Late Stone Age, and could be associated with the late Smithfield industry (Mason, R. 1962: 301-303) and dual utility objects (artifacts that may have been used amongst hunter-gatherers as well Iron Age peoples).

Cattle, Ovis/Capra; medium to larger bovidae and logomorphs, rodent and *Achatina* sp. were identified from the faunal sample collected during the investigation. Cattle remains fell in the age group 24 – 30 months. Age classification on other remains were not possible due to the small sample size. No sex assessment could be conducted on any of the remains due to the same reason or because of the nature of the recovered remains.

7.2. Interpretation of evidence

Young adults and adolescent individuals are not commonly encountered in the skeletal record, as people are usually quite healthy during this age period. In modern societies one of the most common causes of death in this age groups is accidents/trauma.

Another skeleton of a young individual from a Mapungubwe/K2 satellite site was recently found on the farm Hamilton, to the southern side of the Mapungubwe complex (Boshoff and Steyn n.d.). This individual, however, had clear signs of

disease. Unfortunately not many skeletons from these satellite sites are available, but it may be possible in future to determine whether the people living on the periphery of the larger complex enjoyed the same degree of affluence and health as did those staying in the metropolis itself.

The possibility of a secondary burial is very interesting and unusual. To our knowledge the only other confirmed case of secondary burial came from Thulamela (Steyn *et al.* 1998) where the male individual was a secondary internment. In his case, however, the bones were arranged in a specific fashion, while in the case of UP 145 the arrangement of the remains could not be ascertained with certainty. Also, the Thulamela male was clearly of very high status, as indicated by his grave goods and the position of the internment relative to the spatial organisation of the site. In the case of this grave, there is nothing to suggest high status at all. It may thus have been a practice not reserved for high status individuals only. The date of the individual in the grave, relatively to the age of the archaeological deposits, may provide some clues - if the bones are older than the rest of the deposits, it may be presumed that the people moved into this area, and brought the remains of some of their relatives along. This remains, however, speculative and more information will be needed in future.

Beads and pottery found at the site are typically K2 and the presence of these beads at the site suggest a date of early 11th to mid-13th century (Wood, 2000). This is confirmed by the radio-carbon date of 900 ± 20 years BP. Slag found in the test excavation might indicate copper and iron working at the site. Very little evidence of this was recovered and the conclusion is speculative at best. The presence of petrified stock enclosure deposits indicate that livestock were kept at the site and an incident of

burning at the site might also be possible. Again the evidence for this is not conclusive and the extent of this activity at the site could not be ascertained from the information available at present.

The majority of lithic artifacts found are of Late Stone Age origin, and thus connected with San industries (Smithfield, Wilton). Some artifacts, such as grinding or rubbing stones, could be associated with both hunter-gatherer communities and the Iron Age peoples living in the area.

Evidence from K2 and Mapungubwe also reveal that a fair amount of interaction between the San and the inhabitants of these sites took place, as may be seen in the bone implements and ostrich eggshell beads found throughout the area. Microlithic and Middle Stone Age implements have also been found in close association with burials and middens at K2, and on top of Mapungubwe Hill (Meyer, A. 1998: 206). Some scattered contemporary sites throughout the Greefswald and surrounding areas also displayed this tendency.

Lithic finds from the site can be tentatively dated to within the last 1 200 years, which give an indication that the Late Stone Age hunter-gatherers of that area must have lived in close association with the Iron Age population of that time (K2 culture). This may also be substantiated by various other finds from K2 such as the bone tools and other lithic artifacts found in middens and graves (Meyer, A. 1998: 206-207; 277).

Further deductions of possible interaction between the hunter-gatherers and Late Iron Age peoples may be made from evidence from Olieboompoort and Magabeng in the

Northern Province, and Kruger Cave in the Magaliesberg. Bone tools have been excavated from these sites that are similar in manufacture and decoration as those found at K2 (Mason, R. 1962: 301-328, Mason, R. 1988: 127). Farmer/gatherer interaction have also been established on various levels in the area (Hall and Smith, 2000).

The MAP26 TS1 faunal sample is very small and it did not provide much information regarding the use of animals at the site. Cattle, Ovis/Capra and medium to larger bovidae were a source of food. The results derived from the analysis of the faunal sample of Map 26 indicate that the lagomorphs, rodent and *Achatina* sp. were incorporated in the deposit at a later stage. A bigger sample is needed to obtain more information on the site.

The deposit that was investigated and the grave itself was, without doubt, disturbed before it was exposed by erosion. The spread of the materials which are thought to have formed part of the burial goods in the grave suggest that the upper part of the grave was graded away. At present only a vehicle track passes over the site but evidence that this track was a well maintained graded earth road in the past exists. The disturbance of the grave and associated deposits are thus due to grading of the road, vehicle traffic and consequent erosion.

7.3. Recommendations

Very few additions in the form of recommendations can be made to the current and envisaged archeological field work planned in the Limpopo Valley National Park. The site has been included in various surveys of the park and future investigation of

the site is planned. This should serve to provide more detailed context for the remains and will include and position the site in the K2/Mapungubwe cultural landscape. More work on peripheral/associated sites of the K2/Mapungubwe complex is needed to provide and understanding of the role and function of these sites and the identity, status and living conditions of their inhabitants. This research is currently underway or is being planned by various institutions.

It can be recommended that the road be closed or rerouted and that donga rehabilitation be done to prevent further damage to the site. Rehabilitation of the excavation should be sufficient to prevent further erosion of the location of the grave, but other areas of the site is prone to the same problem as that which caused the human remains to be exposed.

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Table 1. Materials recovered from TS1 of site 2229 AB 89.

Accession	no.		Date	Sq. no.	Level	Description	Qty	Wgt. (g)
MAP26	00	01	00/09/26	TS1	Associated with UP145	Beads: <i>achatina</i>	24	
						Beads: yellow glass	1	
						Beads: blue glass	1	
MAP26	00	02	00/09/26	TS1		Undecorated potsherds	15	99
MAP26	00	03	00/09/26	TS1		Decorated/shaped potsherds	7	97
MAP26	00	04	00/09/26	TS1	1	Lithics	10	911
MAP26	00	05	00/09/26	TS1	1	Sample stock enclosure deposit	3	10
MAP26	00	06	00/09/26	TS1	1	Bone		
MAP26	00	07	00/09/26	TS1	1	Shell		
MAP26	00	08	00/09/26	TS1	1	Beads: <i>achatina</i>	29	
MAP26	00	09	00/09/26	TS1	1	Undecorated potsherds	159	1317
MAP26	00	10	00/09/26	TS1	1	Decorated/shaped potsherds	12	183
MAP26	00	11	00/09/26	TS1	Assoc with UP145	Bone		
MAP26	00	12	00/09/26	TS1	2	Metal slag	4	1
MAP26	00	13	00/09/27	TS1	2	Beads: <i>achatina</i>	139	
						Beads: yellow glass	9	
MAP26	00	14	00/09/27	TS1	2	Decorated/shaped potsherds	17	182
MAP26	00	15	00/09/27	TS1	2	Bone		
MAP26	00	16	00/09/27	TS1	2	Undecorated potsherds	122	2009
MAP26	00	17	00/09/27	TS1	2	Lithics	1	145
MAP26	00	18	00/09/27		Surface collection	Undecorated potsherds	21	343
						Lithics	31	1709
UP145			00/09/26	TS1		Human skeletal remains	1	

Table 2. Measurements of mandible and long bones of UP145 (Buikstra & Ubelaker 1994).

Dimension	mm
Chin height	30
Bigonial width	±94
Bicondylar breadth	123
Min. Ramus breadth	34
Max. Ramus breadth	41
Max. Ramus height	48
Mandibular length	78
Mandibular angle	127
Humerus, max length*	298
Humerus, epicondylar breadth*	54
Humerus, vertical diameter of head	36
Humerus, max. diameter, midshaft*	18
Humerus, min. diameter, midshaft*	15
Ulna, max. length	267
Ulna, ant-post diameter	10
Ulna, med-lat diameter	15
Ulna, physiological length	244
Ulna, min. circumference	28
Femur, max. diameter of head	37

*measured on right side

med-lat = mediolateral; ant-post = anteroposterior; max. = maximum; min. = minimum; sup = superior

Table 3: Total bone sample recovered from MAP26 TS1				
Skeletal part	Level:1 Map26/00/06	Level:1 Map 26/00/07	Level: Assoc. Map26/00/11	Level: 2 Map26/00/15
Total Id remains	9	11	4	14
Enamel fragments	4	0	5	3
Skull fragments	2	0	1	0
Vert. fragments	0	0	0	0
Rib fragments	32	0	7	28
Misc. skel. parts	22	0	10	27
Bone flakes	23	0	7	8
Total Non Id	83	0	30	66
Total sample	175	11	64	146
Mass: ID (g)	79.8	3.8	2.7	53.9
Mass NON-ID(g)	83.8	0	10.3	53.4
Number of burnt bones	0	0	0	1
% of burnt bones	0	0	0	0.7
Total bone sample	396			
Total mass (Id + Non-ID)	287.7			

Table 4: Species present at Site 2229 AB 89
according to NISP/MNI

Species		Level		
		1	2	Assosiated
<i>Bos taurus</i>	Cattle	3/3	1/1	
<i>Ovis/Capra</i>	Sheep/Goat	2/1		
	Bov II	2/1	3/1	
	Bov III	1/1	2/1	1/1
Rodent	Small, Medium and large	1/1	3/2	
<i>Pedetes capensis</i>	Springhare		2/1	
<i>Lagomorph</i>	Hare	2/1	3/1	1/1
<i>Struthio camelus</i>	Ostrich	3/1		
<i>Achatina sp</i>	Landsnail	'7/1		1/1
	Tortiose			1/1

Table 5: Chop mark and burning on animal bones
from Site 2229 AB 89

Block	Chop	Burnt
Map26/00/06	1	
Map26/00/07		
Map26/00/11		
Map26/0015	2	1/white

Table 6. Lithic artifacts recovered from Site 2229 AB 89.

	Flakes			Broken blades	Scrapers	Cores	Chunks	Dual utility		Total layers
	Flakes	Broken flakes	Notched flakes					Grind-stones	Pebbles	
Surface MAP 26/00/18	4	5	1	1	1	5	10	1	3	31
Layer 1 MAP 26/00/04	-	2	-	-	-	2	5	1	-	10
Layer 2 MAP 26/00/17	-	-	-	-	-	1	-	-	-	1
Total types	4	7	1	1	1	8	15	2	3	42
	12							5		