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2005/09/19

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**RE: Archaeological Investigation of an Middle Stone Age open-air site on the farm
Hondekraal 234 JS, Groblersdal District, Mpumalanga - Permit No.80/02/03/005/51**

I attach a copy of the report on the results of the archaeological work done on the above mentioned site during 2005. We will keep you informed about any further developments and possible archaeological research in the area that might take place in the future. This constitutes the final report for work done here (on the current permit). I have already requested an extension of the current permit until 2008, as I have received a grant from PAST to continue with work here. An article on the work done on Hondekraal in 2002 has already been published in the NCHM's Research Journal (2002 Volume), of which a copy was sent to you.

I hope that the report will meet with satisfaction of SAHRA and the Council. Thank you very much for the support and continued interest in our work.

Kind regards

Anton Pelsner

Researcher: Archaeology

NORTHERN FLAGSHIP INSTITUTION / NOORDELIKE VLAGSKIPINSTELLING
INCORPORATING / GEINKORPOREER

National Cultural History Museum / Nasionale Kulturhistoriese Museum - Transvaal Museum
National Museum of Military History / Nasionale Museum vir Militêre Geskiedenis - Pioneer / Pioneer Museum
Kuger Museum - Tshepo Crater/Krater Museum - Sammy Marks Museum - Willem Prinsloo Agricultural / Landbou Museum

**A REPORT ON ARCHAEOLOGICAL EXCAVATIONS
AT A LARGE OPEN-AIR STONE AGE SITE
ON THE FARM HONDEKRAAL 234 JS,
LOSKOPDAM NATURE RESERVE, MPUMALANGA**

For:

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SUMMARY

In 1997, and again in 2001, the Management of the Loskopdam Nature Reserve approached the National Cultural History Museum's Archaeology Department to conduct Cultural Resources Surveys in the Reserve. Nearly 70 sites, including 19 Stone Age sites, were identified during these foot surveys. The Stone Age sites are all open-air, surface, sites, of which those on Hondekraal are the most extensive. The Hondekraal sites are huge, located in massive erosion dongas, some covering many thousands of square meters. Large numbers of formal stone tools, cores, flake-tools, waste flakes and chips, as well as hammer stones are found on these sites. A number of possible human-made stone circles were also identified on the Hondekraal sites.

Because of the assumed uniqueness of these sites, and the fact that no Stone Age or any prehistoric archaeological research has ever been carried out in the area, it was decided to conduct in depth archaeological work on the stone age of Hondekraal in 2002. The results of the 2002 work necessitated further archaeological research, which was started in 2005. The results of the 2005 season are discussed in this report.

Stone Age people utilized the area throughout the Stone Age, more extensively during the Middle Stone Age. MSA tools dominate the assemblage, with some evidence of ESA and LSA (larger, cruder tools and minute microliths) also recovered. Stone Age people moved into the area seasonally, avoiding it during dry periods. The lack of stone tools in levels associated with drier cycles is evidence of this. Stone Circle 1, with its cache of stone tools and other objects, could be further evidence of seasonal occupation. We also believe that the stone tool concentrations and stone circles on Site D (as well as those on Site F researched in 2002) are *in situ* and that these sites are in fact representative of seasonal stone tool manufacturing, and maybe even, campsites.

The stone circles were utilized as specific functional areas (the manufacture of stone tools), used possibly over and over again, as evidenced by the hoard of stone tools and other objects from SC1. The ochre stashed in SC1 might indicate a symbolic function for these stone circles

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INTRODUCTION

During 1997, and again in 2001, the Management of the Loskopdam Nature Reserve, to conduct a Cultural Resources Survey, approached the National Cultural History Museum's Archaeology Department. The aims of these two surveys were to locate, identify and document all sites of cultural significance in the area. Nearly 70 sites, including 19 Stone Age sites, were identified during these foot surveys (Pelser 1997, Pelser & Teichert 2001).

Eight of the Stone Age sites are located on the Hondekraal section of the reserve (Appendix 1). The Stone Age sites are all open-air, surface, sites, of which those on Hondekraal are the most extensive. The Hondekraal sites are huge, located in massive erosion dongas, some covering many thousands of square meters. Large numbers of formal stone tools, cores, flake-tools, waste flakes and chips, as well as hammer stones are found on these sites. A number of possible human-made stone circles were also identified on the Hondekraal sites.

Because of the assumed uniqueness of these sites, and the fact that no Stone Age or any prehistoric archaeological research has ever been carried out in the area, it was decided to conduct in depth archaeological work on the stone age of Hondekraal in 2002. Previous Stone Age research is limited to a short publication by B.D.Malan in 1958, where he mentions the occurrence of MSA and LSA tools on the site of the then newly developed Avontura Resort at Loskopdam (Pelser & Teichert 2002). This, and the recent archaeological research carried out by the National Cultural History Museum at Hondekraal, therefore constitutes the only detailed investigation into the prehistory of the Loskopdam Nature Reserve area.

RESEARCH OBJECTIVES

The research objectives of the project are the following:

- To help with the *reconstruction of Stone Age activity* in the Loskopdam Nature Reserve area
- To determine, if possible, *a time-span for Stone Age presence* in the area
- To determine whether or not the stone age sites are *in situ, factory or seasonal camp sites*, utilized over long periods of time
- To *investigate the significance of presumed human-made stone circles* identified on some of these sites

- To determine a *stone tool typology* for the area

HYPOTHESES

The Stone Age sites in the Loskopdam Nature Reserve are extensive open-air localities. The presence of such large numbers of stone tools on these sites can not be ascribed to factors such as water flow or other site formation processes only. We assume therefore that they are *in situ* factory or seasonal campsites, used over long periods of time. The overlying deposits are being eroded away, exposing in context cultural remains such as stone tools and man-made features such as the stone circles.

RESEARCH METHODOLOGY

Archaeological excavations - Standard methodology and practice was followed. For this phase of the project we concentrated on a stone circle, while two other areas were also investigated. These included an un-eroded section of the site (Excavation 1) in order to look at site stratigraphy, as well as a long trench (Excavation 2) situated in a recent water flow channel inside the erosion donga.

Mapping and Drawing - This was done using a Nikon Total Station Electronic Surveying device. The data generated through this was then downloaded onto computer and a software package called Model Maker was then used to generate maps and drawings of the site (See Appendix 2). The total extent of the erosion trench, all physical features such as the stone circles, individual stone tools and stone tool concentrations, as well as excavations, were mapped.

Photographic recording - Photographs of the site in general, as well as individual structures, features and objects, were taken to help with the interpretation of the site (See Appendix 3). These photographs also form part of the permanent record of the site, should it be disturbed or destroyed.

GPS Data – GPS (Global Positioning System) readings of the site investigated, as well as all other sites in the area, were taken during surveys. This was done in order to locate them on 1:50 000 scale maps of the area (See Appendix 1).

Surface sampling – No general surface sampling was undertaken, although artifacts (after careful mapping and photographic documentation) were removed from the surface of the excavated Stone Circle 1.

Documentation & Analysis – All cultural material recovered during the excavations were sorted and bagged on site. After being taken to the Museum the material were documented & recorded according to accepted Museum practice, and the expert analysis of the artifacts undertaken. The analyses concentrated on the following:

- Stone tool typology
- Materials used in manufacture e.g. felsite, quartzite, etc.
- Functionality i.e. what the tools were used for
- Industry, or period, to which they belong

DESCRIPTION OF THE AREA

Hills and outcrops dominate the topography of Hondekraal 234 JS, although there are also sections of flat open veld, with stretches of more dense bush and thorn trees. This bush and thorn tree cover also borders the erosion dongas where the Stone Age sites are located. The most prominent features are Skurwekop (1352m above sea level) and Voster se Berg (1374m). The closest main water source is the Olifants river (less than 5km away), with smaller tributaries and streams (rivulets), such as Kerkplaas se Loop, also nearby. The site excavated in 2005 (Site D) is located adjacent to one of these.

Felsites and other quartzite's characterize the geology of the area, while banded ironstone, hematite and rhyolite also occur. Felsites are very suitable for stone tool manufacturing, and most of the stone tools identified in the area, are manufactured on felsites. The Stone Age inhabitants of the area would therefore have had ample raw material available for making their tools. The vegetation consists of a combination of Mixed Bushveld, Sourish Mixed Bushveld and Bankenveld (Acocks 1988: 49-55; 112-114.) Edible tubers and plants, as well as a variety of plants that can be used for their medicinal properties are found in abundance in the area (personal comments: Mark Gunn 2002).

Site D is situated in a huge erosion donga covering an area in excess of 10 000 square meters. It lies between **25°30'46.4 S 29°13'50.4 E** and **25 30'52.1" S 29 13'51.3.7" E**, at approximately **1055 m** above sea level (See Appendix 1). The site excavated in 2002 (Site F) was a little smaller in size (less than 8000 square meters).

RESULTS OF 2002 ARCHAEOLOGICAL INVESTIGATIONS

The excavations at site 2529CA 58 (Site F) revealed that it is indeed a factory site, and that most of the tools are in fact in situ (Pelser & Teichert, 2002:74). The site seems to have been used seasonally over the ages, probably during the Middle and Late Stone Ages, although some large, crudely made hand axes, cleavers and choppers were also recovered. These could have a much earlier origin (Pelser & Teichert 2002).

The stone circles found on the site, containing large numbers of tools, flakes and hammer stones, are good evidence of the site being used for the manufacturing of stone tools. This is confirmed by the cores, hammer stones and waste flakes making up nearly 46% of the total sample collected. A further 24% are either core or flake tools. Formal tools such as scrapers, points, blades, adzes and hand axes only contributed 30% (Pelser & Teichert 2002).

Regarding raw material preference, quartzite was used the most (55% of the sample), while felsite was also favored (38%). Basalt, quartz, chert and hornfels were used as well. The cores, waste and flake tools found inside the stone circles are nearly all of felsite. This could indicate a time or cultural shift at the site. The surface sampling also indicated a preference for quartzite and felsite (Pelser & Teichert 2002).

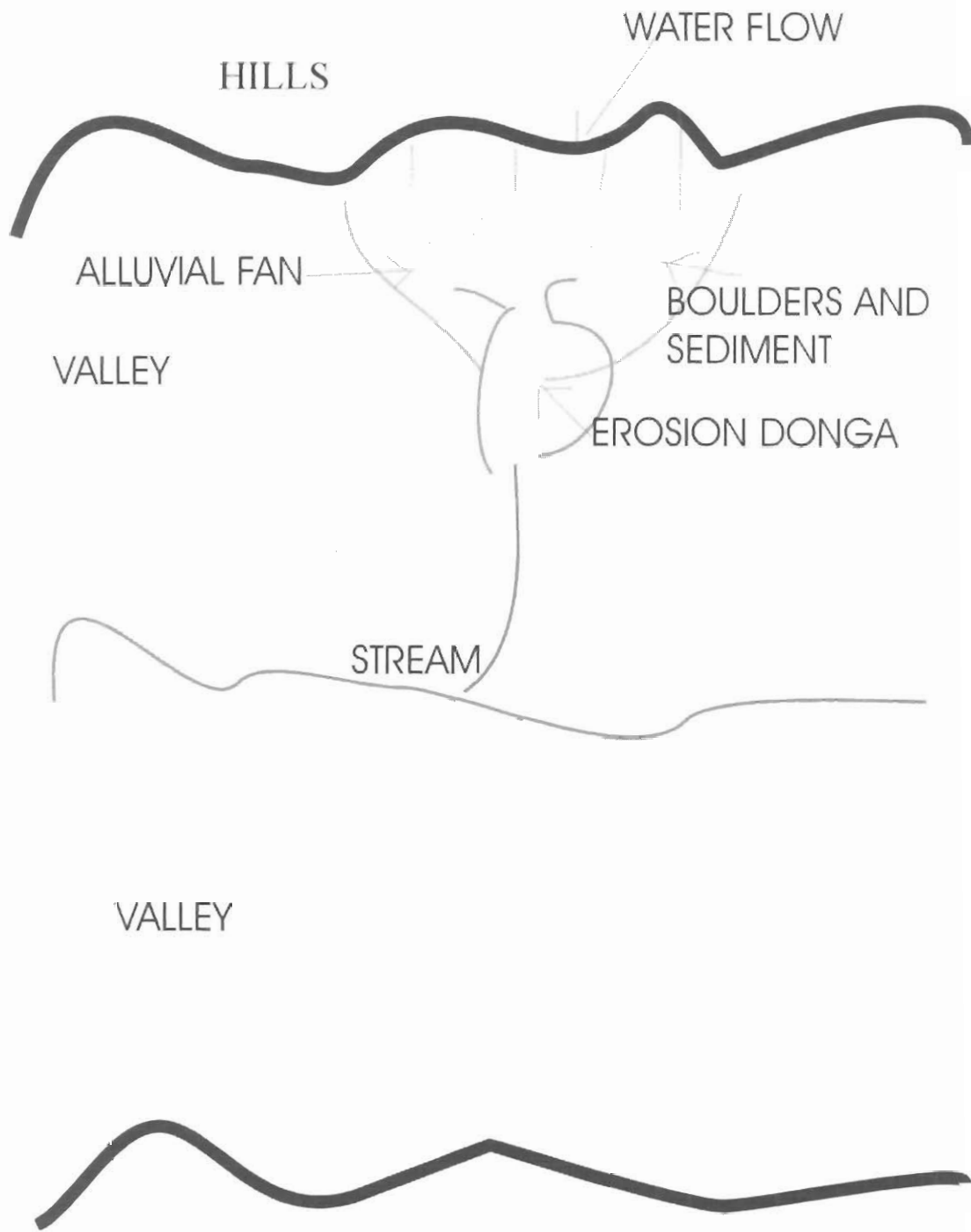
DISCUSSIONS

Geological framework

In order to help interpret the prehistory of the area and the site formation processes involved, the expertise of a geologist from the Geology Department of Wits University was employed. According to Prof. Spike McCarthy the deep valley in which the Hondekraal Stone Age sites is located (**Fig.1**), was formed nearly 2 billion years ago through glacial movement. Over time big rivers, such as the Olifants, and their tributaries cut back into the valley.

It is into this fairly fertile valley, with its abundant herds of animals, easily obtainable water and ample sources of raw material for making stone tools, which the Stone Age hunter-gatherer groups moved much later on. They left behind evidence of their presence and activities in the form of stone tools and other features next to the streams, eventually being covered by successive layers of sediment. But, how did this laying down of sediments happen and how were the sites that we find today formed?

Water flow from the hill slopes deposited sediments down slope over time, in the form of so-called alluvial fans, on top of the ancient, original, floor of the valley. These alluvial fans are visible as flat, grassy, areas with a bit of 'cone shape' (**Fig.2**). They are being eroded out slowly, with the erosion following 'paths' formed by animal tracks and stream channels. The deposition of sediments occurred over long periods of time, during many different wetter or drier cycles. Evidence of these cycles is visible in the stratigraphic layering of the erosion dongas, with distinct layers of ferricrete (formed during wet periods) and calcrete layers (formed during dry periods) present. During the wetter cycles there were far more vegetation present, resulting in less sediment being deposited, with the opposite true for the drier cycles (Prof.McCarthy 2005:pers.comm.).

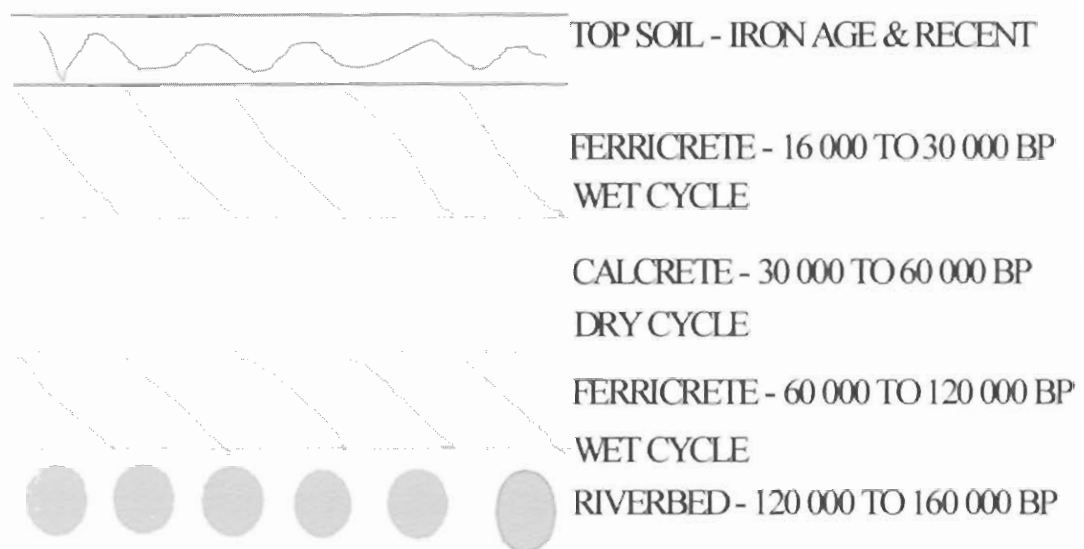


Rough sketch explaining the forming of the alluvial fans and erosion dongas

Stratigraphy

The stratigraphy, as seen in the exposed walls of the erosion donga (Fig.3-4), consists basically of 5 distinct layers. Although we have not been able to verify the ages of the various layers, Prof. McCarthy gave us an approximate estimation of the periods associated with each (Prof. McCarthy 2005: pers.comm.), based on work he has done on other erosion dongas.

The topmost layer (stratum) consists of recently deposited sediments. This has probably been laid down during the last 2 or three centuries, with Iron Age cultural material found on the surface. The second, ferricrete, layer is much older, possibly dating to between 16 000 and 30 000 BP (the Late Stone Age), deposited during a wet cycle. The calcrete layer, indicating a dry climatic period, following this could date to between approximately 30 000 and 60 000 BP (end of the Middle Stone Age), while the next ferricrete layer possibly dates to between around 60 000 to 120 000 BP. The final layer is the original riverbed, consisting of eroded streambed and river pebbles, stretching back to around 120 000 and 160 000 BP. Most of the stone tools and other evidence of human utilization of the area are found associated with the last two layers. During the 2002 excavations, stone tools were recovered from the ferricrete (wet period) layers and on the riverbed, with none encountered in the calcrete (dry period) levels.



Rough sketch explaining the basic stratigraphy at the site and possible time periods to which the different layers, or stratum, belong (based on McCarthy's personal communication: 2005).

Excavation 1

Excavation 1 was a 3m x 2m trench (**Fig.5**), located on the southwestern side of the erosion donga. It was measured out close to the edge of the donga, on an uneroded section, with the aims of determining a stratigraphy for the site, as well recovering *in situ* cultural material (if any) from a relatively undisturbed context.

The first layer consisted basically of dark to light brown colored soft sand and silt, washed down recently and deposited on top of the first ferricrete layer (layer 2). Layer 1 was approximately 39 cm thick. No cultural material was recovered. As soon as this soft layer of silt was removed, the sediments became extremely hard and nearly impossible to remove with conventional archaeological equipment. It was therefore decided to select a 1m x 1m portion of the trench to continue with. However, even this proved difficult, with almost no progress made in the first week of fieldwork. Due to time constraints we made the decision to abandon Excavation 1 for this phase of the work, planning to carry out a similar operation at a later stage of the project.

Although the excavation was not finished and our aims with it were not realized, we have a fair idea of the stratigraphy of the site, based on Prof. McCarthy's and our own observations in the profile of the erosion donga.

Excavation 2

Excavation 2 was 3m x 1m trench (**Fig.6**), dug in a thin layer of soft sand overlying a compacted layer of mud, inside the erosion donga. It was also located on the western side of the donga, approximately 50m north of Excavation 1. The aims with the excavation were simply to try and locate any possible stone tools underneath the soft sandy deposit and to determine the depth of the deposit on top of the compacted mud. The soft sand is the result of small streams of water flowing down the sides of the donga after rainfall, depositing new sediments on top of the already exposed riverbed and associated stone tools.

The soft sand layer was between 5 and 10cm thick, easily brushed off the underlying compacted mud. Besides the single stone tool (a core – **Fig.7**) only the preserved spoor of antelope in the compacted mud underneath the sand was uncovered. The age of these are unknown, but they are clearly of very recent origin.

Stone Circle 1

This excavation proved to be extremely exciting and unique. The feature consists of a number of rocks placed flat in a semi-circle (**Fig. 8**), located near to the edge of the erosion donga on its eastern side. It has a diameter of 0.93m (N-S) and 1.20m (E-W), and contained more than **90** stone tools, flakes, cores, hammer stones/flaking tools and river pebbles, concentrated mainly within the perimeter of the circle but also around its edge (**Fig. 9**). Many of the objects are of the same material (shale, quartzite and chert), and it seems as if this feature constitutes a work area where stone tools were manufactured. This is similar to the stone circles we investigated at Site F in 2002, where hundreds of objects were recorded inside and around the edges of these features (Pelsler & Teichert 2002).

The stone circle and the stone objects found with it were first photographically recorded in detail, as well as mapped with the electronic total stations (see **Appendix 2**), before the objects were removed from the surface. Another interesting find in close proximity, and possibly related, to the stone circle was a stone anvil (**Fig.10**). It is located a few meters outside (eastwards) the semi-circle. The exact function and origin of this object has not been determined, although it might have been associated with the stone tool making activities that took place here. After removing the stone tools and other objects from the surface, we excavated inside the stone circle to try and determine if an older 'occupational' level existed, as well as to determine the function of the feature more exactly.

A hard, compacted layer of about 5-10cm of clay and ferricrete/calcrete nodules were removed from inside the semi-circle when a 'cache' of stone tools, waste flakes, cores, river pebbles and ochre/hematite nodules were uncovered (**Fig.11-12**). This unexpected find was located to the back of the feature, covering about two thirds of it. The cache contained **133** objects. It seems as if they were placed here to be used and re-collected at a later stage.

Ninety-one stone objects were collected from the surface of Stone Circle 1. Of these **28** (or **30.77%**) constitute formal tools, while there were **25** waste flakes (debitage). The other objects included **9** cores, **18** hammer stones, anvils and other river pebbles, as well as **11** ochre and jaspelite nodules. Eleven of the hammer stones and pebbles showed signs of edge wear, clear indication that they were used in the manufacture of stone tools and possibly in retouch work on some tools. Seven of the 'formal' tools have been retouched.

In the analysis of the material, we used the classification scheme employed by Thackeray & Kelly at Klasies River Main Site in 1988. Nearly **50%**, or **14** of the formal tools from the surface of the circle were flake-blades, either convergent or parallel (Thackeray et.al 1988:25). Only **7** of the flake-blades were whole, with the other seven either missing their distal (butt), proximal (point) or both, ends. The next largest category was scrapers, with **9** present. Seven of these are side scrapers, with **1** an end scraper and another a double-sided scraper. Other formal tools include a large hand axe, a broken point (both on quartzite), a backed flake-tool (possibly a gouge), and **2** small segments. Nearly **70%** of the formal tools from the surface were on shale.

The rock (geological) types used at Site D were identified by G.Balkwill, a qualified geologist working at the NCHM. Concerning raw material choice it seems as if shale and quartzite were preferred for the production of the stone tools recovered from the surface of the feature. Greenish/yellowish shale was used for **37.36%** of the tools, followed by quartzite (**28.57%**) and chert (**17.58%**). Quartz and jaspelite were also utilized, although only on a small scale. The shale-produced stone artifacts were all found concentrated closely together, strengthening the argument that this feature was used for stone tool manufacture. These shale artifacts included waste flakes, chunks, cores and formal tools, all clearly from the same, original core.

The **133** objects from layer 2 (the cache) included **1** potsherd (most probably a later intrusion into the deposit), **19** waste flakes, chips and chunks, **6** cores, **37** chert & quartzite nodules/chunks, **19** hammer stones and river pebbles, **17** jaspelite nodules

and **16** pieces of ochre. Some of the ochre pieces might have been ground or used, while 9 of the river pebbles/hammer stones have clear evidence of being utilized. There were **20** formal tools, of which two were core tools. Only **5** of these had signs of retouch or damage on the edge.

In contrast to the surface material, where flake-blades dominated, scrapers were most abundant in the cache, with **12** (or **60%** of the formal tools) represented. It includes mainly side scrapers, while 2 of these were on quartzite cores and the rest on shale. Blades or flake-blades and flake-blade sections made up the remaining portion of the formal tools in the cache. This included **1** large backed blade, **2** complete flake-blades, **3** with their distal ends missing, **1** missing its proximal end and **1** representing only a medial section of a blade. Shale was used in nearly **80%** of the formal tools.

Similar to the surface of the circle, shale and quartzite dominated the formal stone tool assemblage. More than twice the amount of ochre and jaspelite nodules and pieces were recovered from the cache than from the surface, while a fairly large quantity of quartzite and chert pieces were also recovered. These were probably also collected to be used in the manufacture of stone tools.

Other stone circles

Besides the excavated Stone Circle 1, three other arc-shaped structures were also identified on the site (**Fig.13-15**). Two of these (stone circles 2 & 3) are not that distinct, and needs further investigation to confirm their status, but the third (stone circle 4) is very clear. Stone Circles 2 & 3 are located close to Stone Circle 1, a few meters to the north and northwest, while Stone Circle 4 lies approximately 50 m west of it. This stone circle, or arc, is slowly eroding out from underneath a layer of hard calcrete and ferricrete. The next season of excavations will focus on this feature. A similar feature was also located on Site A in the Hondekraal area (**Fig. 16**).

Stone artifact concentrations, or work areas

Although this is a debatable occurrence, a similar feature was identified and documented on Site F in 2002 (Pelser & Teichert 2002). Basically, this consists of a relatively small area on the site with a very dense concentration of stone tools, waste flakes and cores, mainly all from the same material (**Fig.17**). The concentration identified and mapped on Site D (See **Appendix 2**) contains more than **300** stone artifacts on shale, similar to those from Stone Circle 1. An unknown number of stone tools manufactured on other materials such as quartzite, felsite and chert were identified here as well, but the shale tools dominate.

It seems therefore as if this was an area on the site that were utilized in the manufacture of stone tools. A number of hammer stones here are further evidence for this, while the high number of waste flakes (debitage) of the same material also seems to indicate a “factory” or production area. Although stone tools are scattered all over the donga, this is clearly a localized feature, as nowhere else on the site such a large concentration of same-material artifacts are present.

CONCLUSIONS

The Stone Age sites on the farm Hondekraal, located in the Loskopdam Nature Reserve, are all situated in large erosion dongas. How were these features formed? Water flowing from the surrounding hills deposited sediments down slope over time, in the form of so-called alluvial fans, on top of the ancient, original, floor of the valley. These are being eroded out slowly, with the erosion following 'paths' formed by animal tracks and stream channels. At Site D the current stream is cutting back in towards the hill slopes, exposing an older stream channel or riverbed (See **Fig. 18**) that were present many thousands of years ago. Stone Age hunter-gatherer groups left behind evidence of their presence and activities in the form of stone tools and features, such as the stone circles, next to this stream, these eventually being covered by successive layers of sediment.

The laying down of sediments took place over long periods of time and during many different wet or dry cycles. These cycles can be seen in the stratigraphy of the erosion dongas, with clear layers of ferricrete (wet periods) and calcrete (dry periods) present. During the wetter cycles there were far more vegetation present, resulting in less sediment being deposited, with the opposite true for the drier cycles (see pages 7-8 this report).

These wet and dry cycles would have played a major role in human presence and activity in the area during the Stone Age. During the wet cycles there would have been much more surface water and more continuously running streams. This would also have meant more animals and plant foods, deciding factors in the presence and activities of humans. The opposite is obviously true for the drier cycles. Less water, animals and vegetation curtailed human activity and they would have avoided the area. During excavations at Site F in 2002, we recovered stone tools from the ferricrete (wet cycle) levels. Digging into the lower calcrete (dry cycle) levels, no material was recovered, with stone tools only occurring again below that on the original streambed (Pelser & Teichert 2002).

The stratigraphy at Site D, based in part on McCarthy's observations at the site, consists basically of 5 distinct layers. The top layer consists of recently deposited sediments, laid down during the last 2 or three centuries, with Iron Age related material identified on the surface. The second layer is much older, possibly dating to between 16 000 and 30 000 BP (the Late Stone Age), deposited during a wet cycle. The calcrete layer indicating a dry climatic period following this could date to between approximately 30 000 and 60 000 BP (end of the Middle Stone Age), while the next ferricrete layer possibly dates to between around 60 000 to 120 000 BP. The final layer is the original riverbed, consisting of eroded streambed and river pebbles, stretching back to around 120 000 and 160 000 BP. It is this layer that the excavated and recorded stone features and most of the stone tools at the site are related to. This is problematic, as will be seen later.

With no suitable material for dating recovered from the site (faunal remains or charcoal) there are obvious question marks regarding the exact age of the stone tools and other objects recovered from the stone circle (SC1) excavated at Site D.

In the same vein, the antiquity of the stone circles on the site is in doubt. However, it is clear from the stone tools that these features and the objects associated with them (specifically Stone Circle 1) have a Middle Stone Age origin. Most of the formal tools from the stone circle have typical faceted platforms, a characteristic of the MSA, while there are also a large number of elongated, parallel-sided blades and flake-blades. The parallel and/or convergent flake-blades from the circle are typical of the MSA as well. Also, although there are some hand axes and cleavers on the site (typical of the ESA), only 1 was recovered from Stone Circle 1. The MSA is also characterized by the general loss of hand axes and cleavers. Microlithic tools, typical of the LSA, are also scarce, and although a small number of really minute flakes were recovered from the circle these all came from the surface and not within the cache of tools.

The presence of stone circles on open-air Stone Age sites is not an unknown occurrence. Stone circles have been noted in the Brandberg and other areas of Namibia for some time (Parsons 2004:62). In South Africa similar structures have been archaeologically investigated in the Northern Cape (Humphreys & Thackeray 1983), at Zeekoegat 27 and Orangia I in the Orange River Scheme and the Seacow Valley (Sampson 1968; 1974 & 1985). More recently, Parsons excavated stone circles at Bloubos in the Northern Cape (Parsons 2000 & 2004). However, with the exception of those from Orangia and Zeekoegat, which Sampson places within the MSA based on the stone tools found in association, all the other stone circles date to the Late Stone Age or even more recently.

But, what was the function of these stone circles? The 7.5 x 5.5m oval structure investigated by Humphreys and Thackeray in 1983 at Lime Rock in the northern Cape was interpreted as a foundation for a branch and grass screen, and possibly a hide for hunters overlooking a streambed. No deposits were however found inside the structure. The equally large structure excavated by Sampson at Zeekoegat did yield remains of human occupation, and this and several other crescent-shaped structures from Orangia might have been both windbreaks and hides for hunters (Parsons 2004: 61). The Orangia structures were situated close to the entrance to a narrow gully. Dense scatters of artifacts (mainly stone tools) were found within these structures, similar to the situation seen at Site D on Hondekraal. Some of the stone circles in the Brandberg area of Namibia had ashy deposits containing implements, as at Bloubos (Parsons 2004: 62).

There are also various ethnographic accounts of these types of structure and their functions. The stone circles functioned either as windbreaks or huts, depending on environmental setting and differing situations such as temporary or more permanent camps, with the stones serving as foundations for branches (Parsons 2004: 63). The Bloubos circle excavated by Parsons seems to suggest that it was the base of a living unit, or hut. The BB7 circle is a 5m x 3m enclosure without a discernible opening. None of the Bloubos circles exceeds a single stone's height and are relatively small (such as SC1 at Hondekraal Site D), and is highly unlikely to have served as animal enclosures (Parsons 2004: 65-66).

The question therefore remains: What was the function of the Hondekraal stone circles, and more specifically that of the excavated Stone Circle 1? Clearly these stone

circles are not coincidental occurrences, as they were manually arranged and utilized for specific reasons. The stone circles investigated in 2002 at Site F slightly larger than the excavated Stone Circle 1 at Site D, although still much smaller than those reported from Bloubos and other sites mentioned earlier. Similar to SC1, the features at Site F all contained a large number of formal stone tools, hammer stones, cores and waste flakes, indicating that they might have functioned as areas specially demarcated for the manufacture and 'storing' of stone tools.

The evidence from SC 1 seems to confirm this theory. Not only were stone tools, cores, hammer stones and waste found on the surface of the feature, a definite cache of objects was uncovered inside. This cache not only contained stone tools, but also objects such as ochre and jaspelite nodules, specifically brought onto the site for storage and later use. Stone Circle 1 is also much smaller (roughly 1m in diameter) than any of the other stone circles on the Hondekraal Stone Age sites and those from Bloubos, Zeekoegat, Orangia and others. It is therefore highly unlikely that SC1 functioned as windbreak, dwelling foundation or hunters hide.

The most likely explanation, we feel, is that it indicated a specific individuals' work area, which left the material there for use at a later stage, possibly for when returning to the area the following season. The fact that most of the tools and waste are from the same material (shale) could well indicate that this cache represents a single or one-season event, although this would be difficult to prove. The crescent-shaped Stone Circle 4 on Site D is much larger and might have been a windbreak or dwelling. This needs to be investigated in more detail however.

The presence of the pieces of ochre (**Fig. 19**) and the unworked jaspelite chunks (**Fig. 20**) inside the SC1 cache needs to be expanded on. Ochre and jaspelite were recovered from the surface of SC1 also, although in much smaller quantities. Some of the 16 ochre pieces from the cache has signs of being utilized (edges rounded and/or small scratches visible). Although it still needs to be verified, this could be an important discovery. Why would pieces of ochre be stashed in some quantity in a seemingly human-made structure, in association with stone tools, dating to the Middle Stone Age?

Ochre is natural red iron oxide, and was/is used by hunter-gatherers and other groups today as a pigment for body paint. There are many theories on exactly when and why this practice started. Some archaeologists believe that ochre was used by women to attract suitable mates (making themselves beautiful), as well as to avoid the sexual attention of males, the ochre mimicking menstrual blood. Ochre might also have been used for hide curing. Whatever the case may be, the use of ochre is evidence of the emergence of modern human behavior and symbolism. Ochre first appears in the archaeological record on African sites around 300 000 years ago, but its occurrence is sporadic until about 120 000 years ago. Thereafter, in southern Africa, it appears more regularly and seems to have played a much more important role in Stone Age life.

The well-known and important excavations at Blombos Cave have emphasized this. Over 8500 pieces of ochre was recovered from MSA levels at the cave, and is most prolific in the M3 phase provisionally dated at 140 000 years. Many pieces have been ground and worked to obtain ochre powder, while traces of this has also been found

on stone and bone tools. The most amazing ochre artifacts from Blombos are two pieces with deliberate abstract designs on them in the form of criss-cross patterns. This, according to the researchers at Blombos, are undoubtedly symbolic and the earliest evidence of this kind of symbolism in the world. What is the importance of the ochre pieces from Hondekraal then? Although evidence of these pieces having been ground or worked to obtain powder is tentative at this stage, the mere fact that so many pieces were found cached in an area less than 1m in diameter is important. Clearly ochre was hoarded here for some purpose. Secondly, if the geological timeline for the level where the stone circle and stone objects come from are correct (between 120 000 and 160 000 years ago), then the 'used' ochre from Hondekraal are similar in age to those from the MSA (M3 phase) levels at Blombos Cave.

The fairly large amount of unworked jaspelite chunks from SCI is also interesting. These were also clearly hoarded for later use. Stone tools manufactured on jaspelite were found on Site F in 2002, while a number was also identified on Site D during the 2005 season. According to both McCarthy and Balkwill jaspelite are not found in close vicinity to the Hondekraal area and these must therefore have been brought in from some distance. The source of the jaspelite must still be identified.

The artifact concentrations identified on the site (See **Appendix 2**) must also be mentioned again. This is similar to ones located and mapped on Site F in 2002. As was the case in 2002, most of the stone tools and waste material located in these concentrations are from the same raw material. These concentrations are *in situ*, and not the products of site formation processes such as water flow. We believe that they represent areas where tools were manufactured, and that water erosion is slowly exposing these events again. By en large most of the stone tools and waste from the largest concentration on Site D are on the same shale as the tools from SCI, and might therefore be contemporary. This concentration of material is also on the same stratigraphic level as SCI. A small amount of stone tools of both earlier (ESA?) and later (LSA) phases are found interspersed with the MSA material.

The stone tools from SCI and those identified on the surface of Site D are varied, and include flake-blades, scrapers, hand axes, points and adzes (See **Fig. 21**). Other stone objects found were hammer stones and small river pebbles that might have been used as retouch tools (**Fig. 22**).

In conclusion it is therefore possible to say that the archaeological fieldwork conducted at Hondekraal Site D during 2005 was very successful. The first objective of the research at Hondekraal is to help reconstruct Stone Age activities in the Loskopdam Nature Reserve area. Although this part of the work is by no means complete we can with certainty say that Stone Age people utilized the area throughout the Stone Age, more extensively during the Middle Stone Age. MSA tools dominate the assemblage, with some evidence of ESA and LSA (larger, cruder tools and minute microliths) also recovered. It seems as if the Stone Age people moved into the area seasonally, avoiding it during dry periods. The lack of stone tools in levels associated with drier cycles is evidence of this, while the wetter, ferricrete levels contain an abundance of tools. Stone Circle 1, with its cache of stone tools and other objects, could possibly also indicate seasonal occupation, with the hoarding possible indication of a planned return trip to the site. It is also clear from the evidence that the

Stone Age groups kept close to the water sources, not only for the animals but also because of the presence of suitable raw material (river cobbles etc...) for making their stone tools.

Reconstructing a reliable time-span for the Stone Age on Hondekraal is still proving difficult. It is clear from the types of stone tool recovered from SC1, and from the surface of the site, that Stone Age groups were active in the area right through the ESA to LSA. SC1, and the tools associated with it, date to the MSA, and possibly to between 120 000 and 160 000 years ago, based on the observations made by geologist T. McCarthy on site. This, however, needs to be confirmed through more reliable dating methods, such as Optically Stimulated Luminescence (OSL) dating. It is also our firm believe that the stone tool concentrations and stone circles on Site D (as well as those on Site F researched in 2002) are *in situ* and that these sites are in fact representative of seasonal stone tool manufacturing, and maybe even, camp sites.

A fourth objective of the work was to investigate the significance of the presumed human-made stone circles. From the excavation of SC1 it is definitely possible to conclude that these circles are human-made, and random, natural formations of stone. These stone circles (including the ones at Site F) were packed to demarcate specific functional areas (the manufacture of stone tools), used possibly over and over again, as evidenced by the hoard of stone tools and other objects from SC1, maybe even by the same individual who constructed it in the first place. The ochre stash from SC1 might even indicate a symbolic function of these stone circles, while a second less abstract function such as windbreak or hunters hide cannot be ruled out as yet. The small size of SC1 might detract from the last mentioned possibilities, but SC4, a much larger structure, might have functioned in this way.

The last objective is the construction of a stone tool typology for Hondekraal and the Loskopdam Nature Reserve area. This is still in progress. At present, based on both 2005's and 2002's research, it seems as if flake-blades and other blades, as well as scrapers dominate the assemblages, although there are also other tools present such as adzes, points, core- and flake tools and hand axes. MSA-type tools also dominate the assemblages, even though some ESA and LSA tools have also been recovered.

RESEARCH OBJECTIVES 2006-2007

The following will be the research objectives for the 2006-2007 field seasons:

- (a) Recovering suitable dating material for OSL dating. This will help in establishing firm dates for the Stone Age at Hondekraal and the larger Loskopdam Nature Reserve area
- (b) Proper investigation of the ochre from SC1 to determine whether or not some of the pieces have been ground or worked
- (c) Determining the source of the jaspelite found in SC1
- (d) Finding a living site in the Hondekraal area. This will entail searching for suitable shelters or caves in close vicinity to the open-air sites

(e) Excavating Stone Circles 2, 3 and 4 on Site D in order to determine their functions and ages

Establishing of firm stone tool typology for the Hondekraal sites

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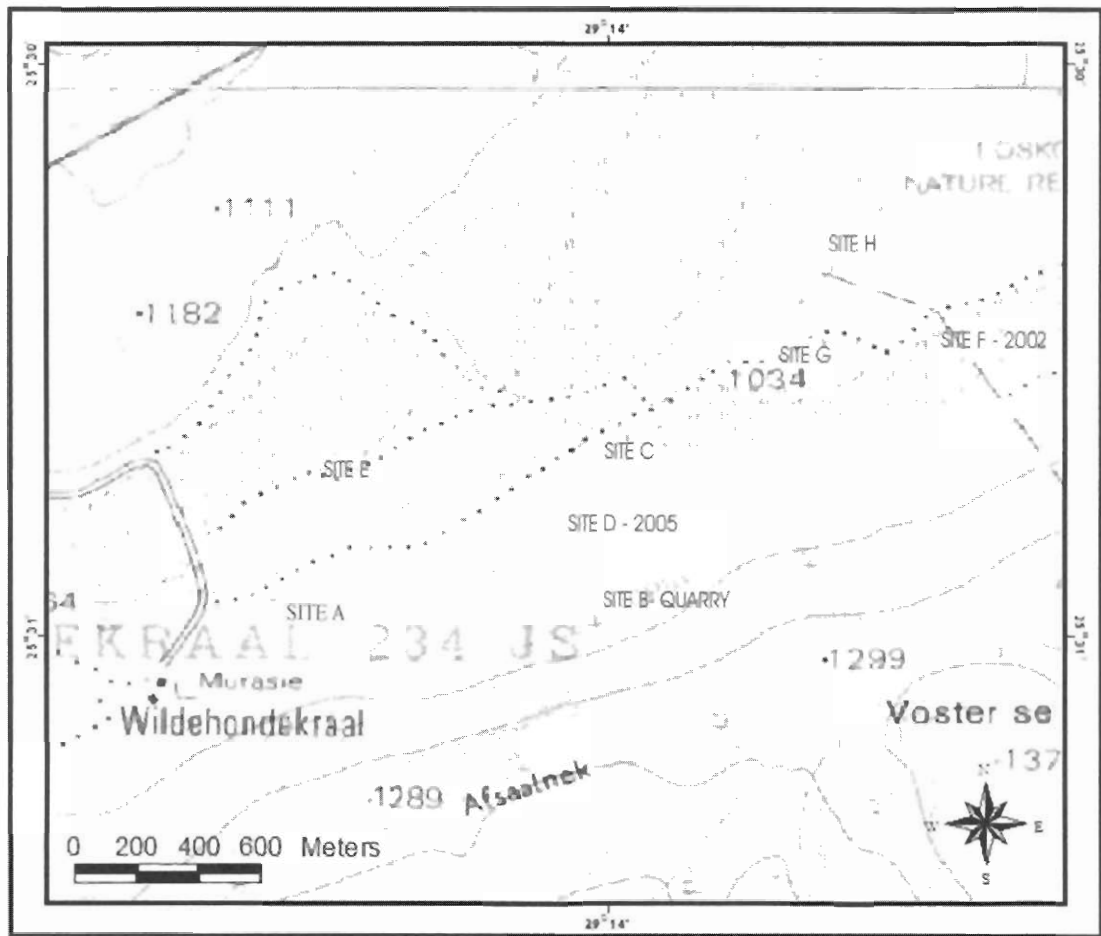
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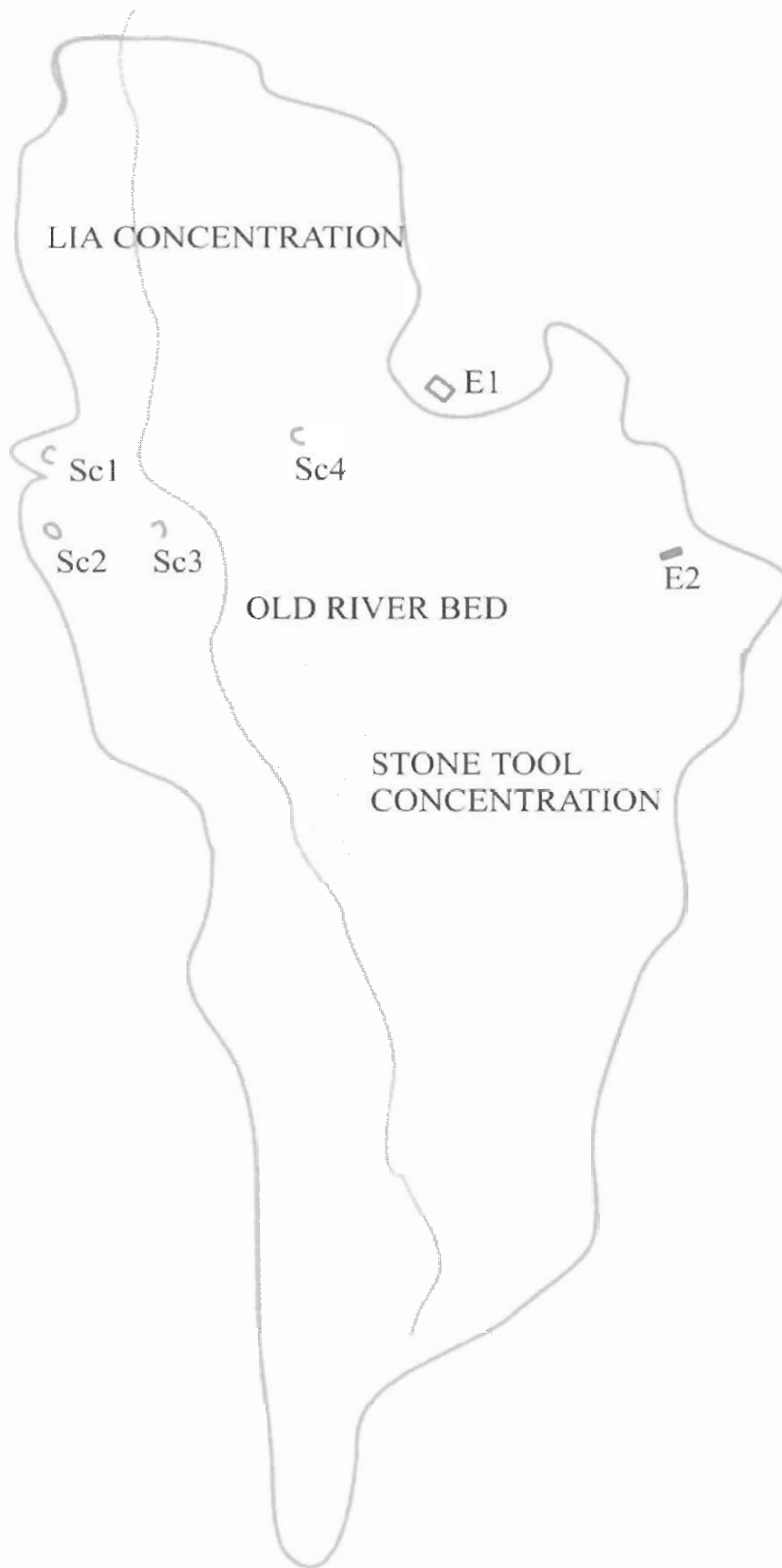
All the Research Team members for all their hard work and interest

Finally, to our families and friends for their support and sacrifices while we were away on fieldwork.

**APPENDIX 1 – MAP OF THE AREA INDICATING THE LOCATION OF
STONE AGE SITES ON HONDEKRAAL**



APPENDIX 2 –DRAWING OF THE SITE



APPENDIX 3 – PHOTOGRAPHIC DOCUMENTATION



Fig.1. Hondekraal Valley. The arrow points in the direction of the location of the Stone Age sites.



Fig. 2. Inside Hondekraal Valley. A so-called ‘cone shaped’ alluvial fan is visible in the center of the oval.



Fig. 3. Site D. The exposed river bed/gravel is visible, with the walls of the donga seen in the distance.

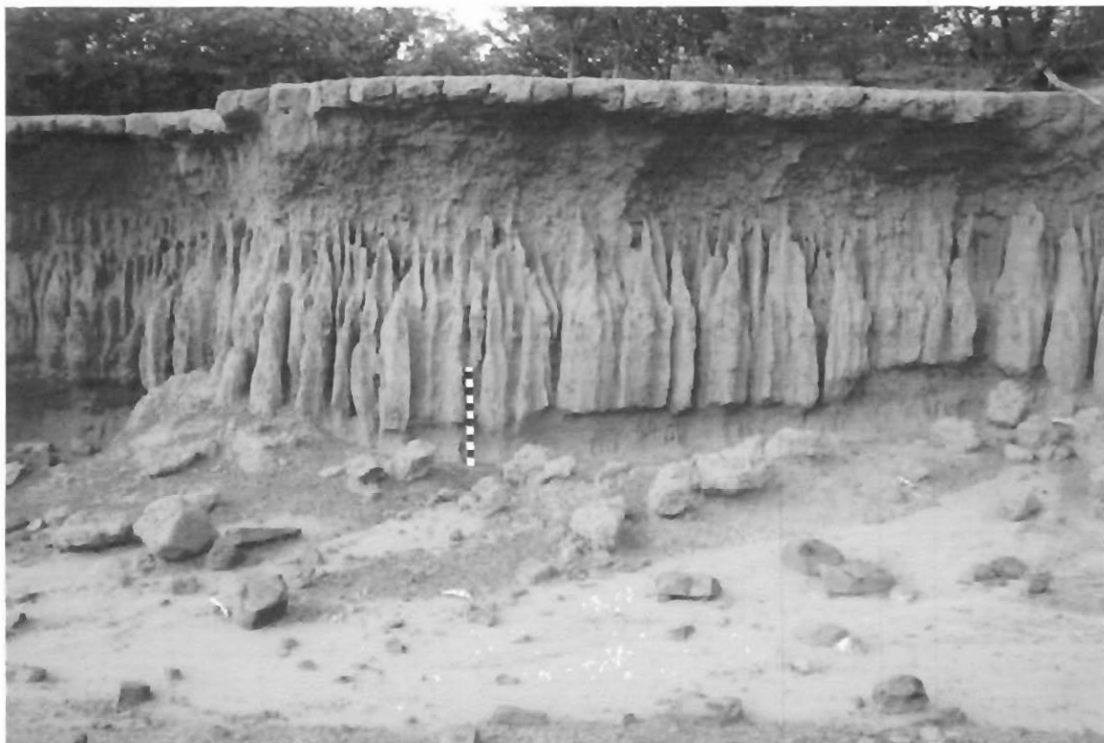


Fig. 4. Erosion donga wall at Site D. The successive layers of sediment can be seen, with a layer of topsoil followed by ferricrete (red), calcrete (yellowish), ferricrete again and lastly the original river boulders.



Fig. 5. Excavation 1. The first layer (dark brown topsoil) was removed, exposing a yellowish and reddish, hard ferricrete layer underneath.



Fig. 6. Excavation 2. A thin layer of soft sand covered compacted mud underneath.

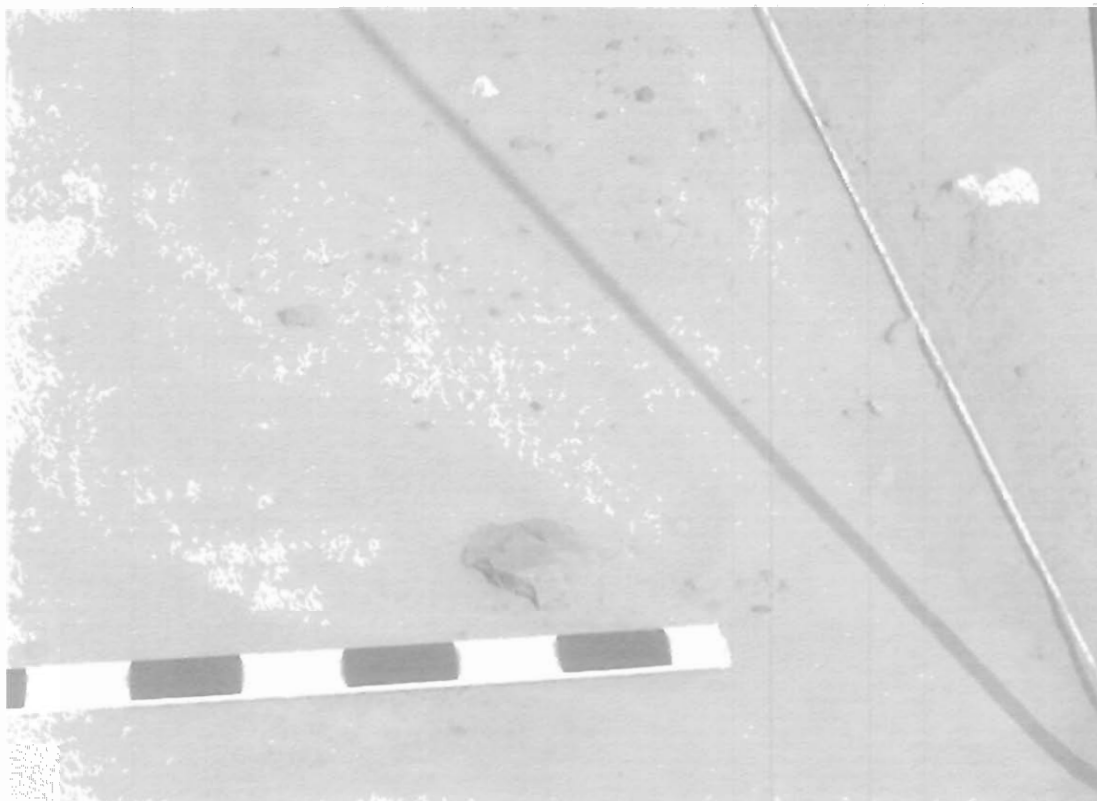


Fig. 7. A single stone tool (core) found in Excavation 1. The tool was covered by recently deposited sand and is embedded in the compacted mud underneath.

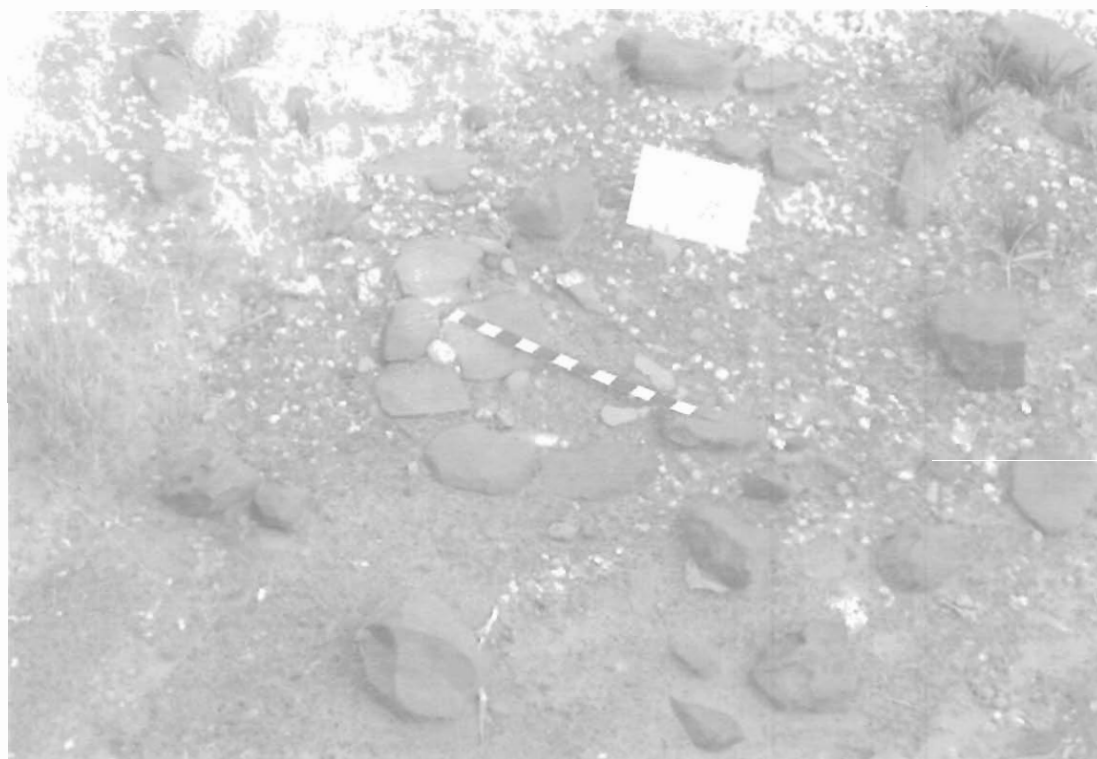


Fig. 8. Stone Circle 1. Note the flatly packed stones of the feature, in contrast to the other loose, fairly upright boulders around it.



Fig. 9. Stone Circle 1. The white tags indicate stone tools, waste flakes, cores, hammer stones and river pebbles with abraded/damaged edges.



Fig. 10. The stone 'anvil' found close to Stone Circle 1.



Fig. 11. Stone Circle 1. The cache of tools and other objects just below the surface, are clearly seen.

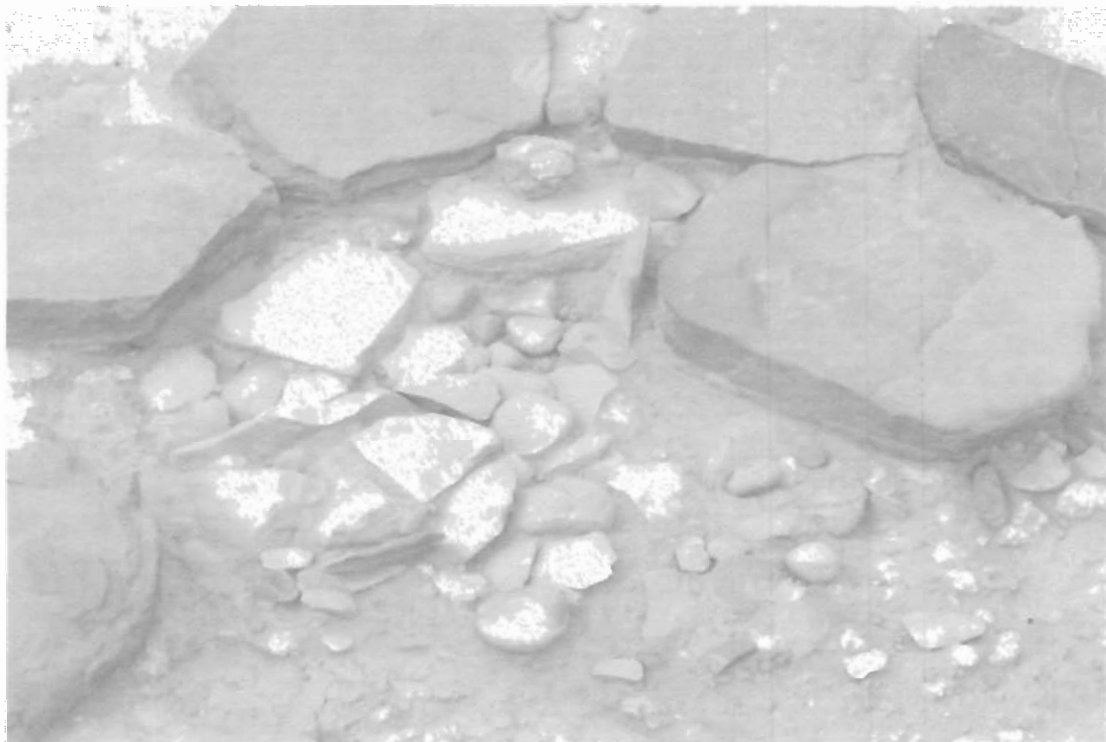


Fig. 12. Close-up of cache in Stone Circle 1. Note the cores, flakes and abundance of river pebbles.



Fig. 13. Stone Circle 2. This feature is more circular than the excavated SC1.

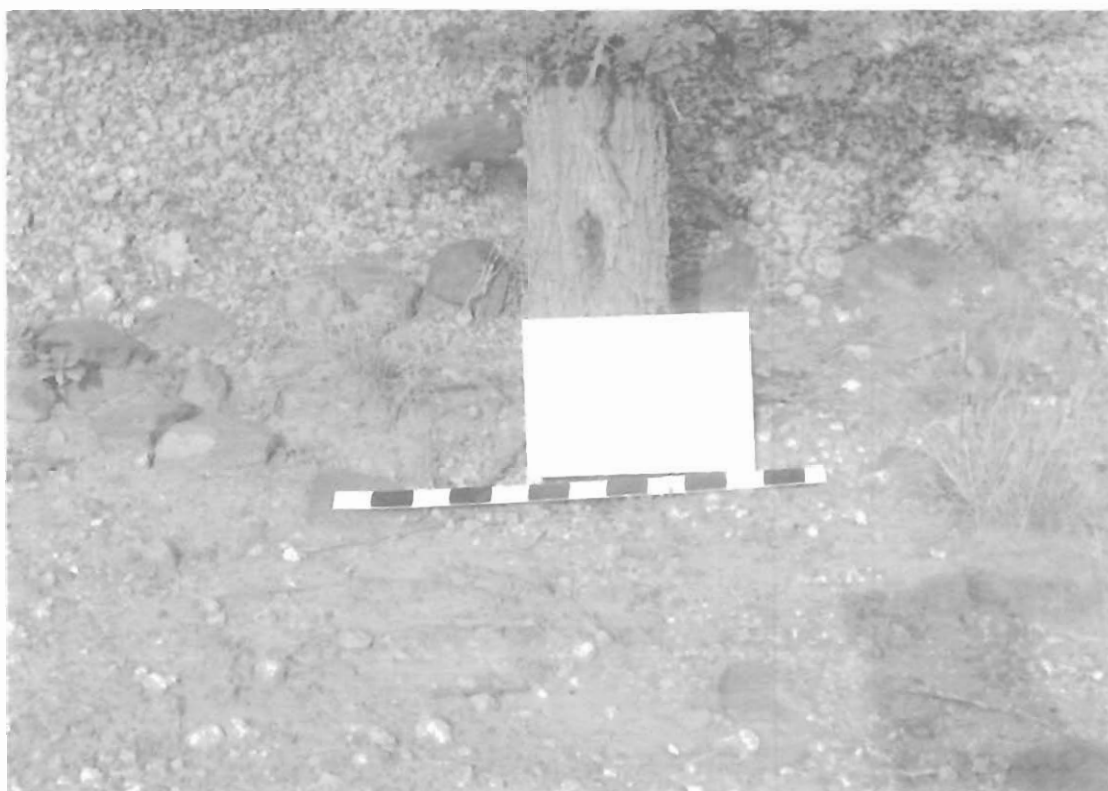


Fig. 14. Stone Circle 3. The tree is located roughly in the centre of the arc.



Fig. 15. Stone Circle 4. The arc of stones can be clearly seen.

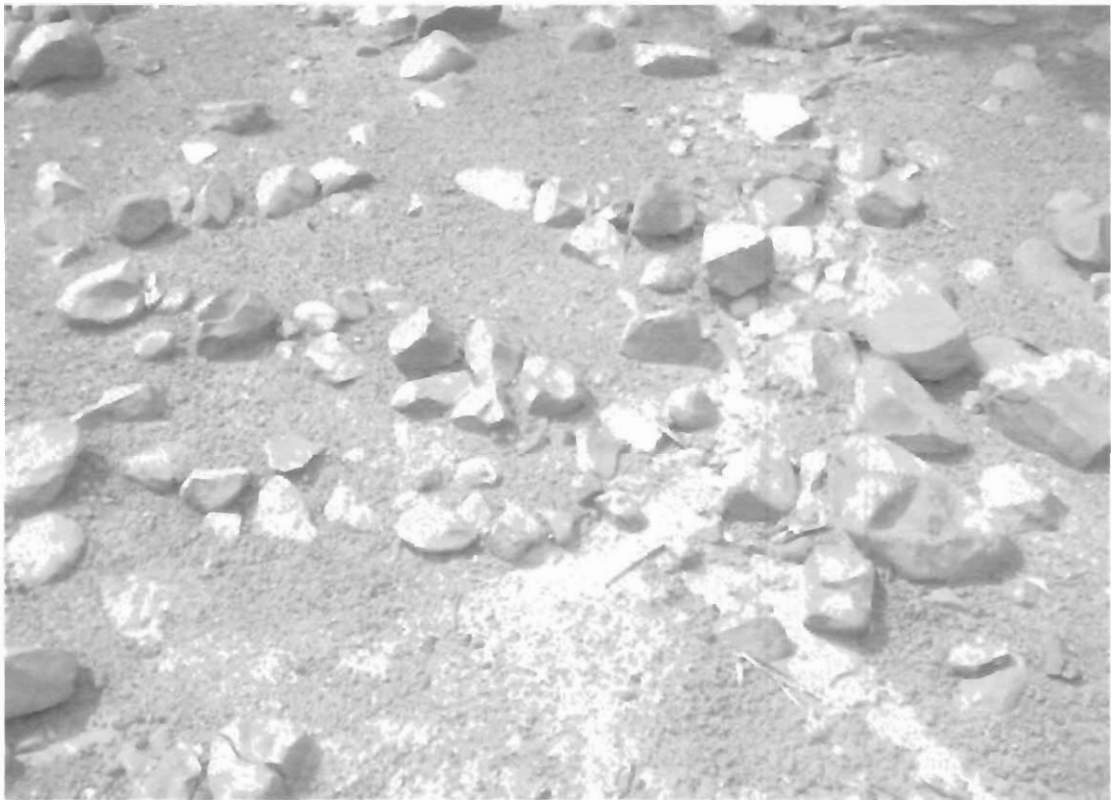


Fig. 16. The circular arrangement of stones on Site A.



Fig. 17. Stone tool concentration, or work area. The white tags indicate the position of the shale-manufactured tools.



Fig. 18. Site D seen from hills to the north. The new and old streams' positions are indicated

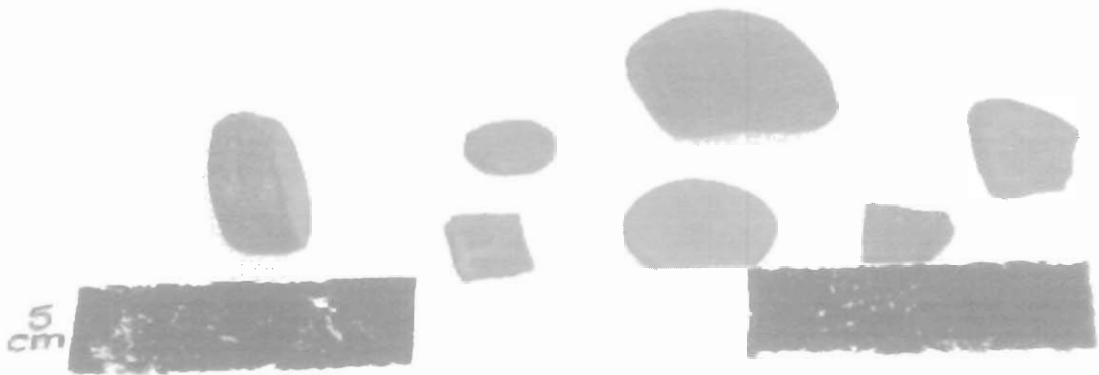


Fig. 19. Pieces of ochre from Stone Circle 1.

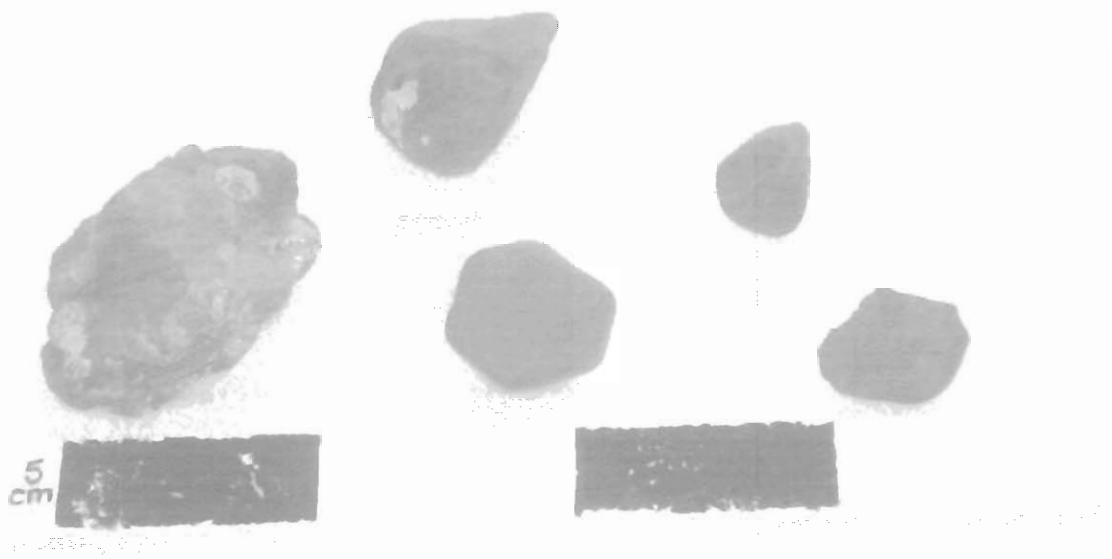


Fig. 20. Unworked jaspelite chunks from Stone Circle 1.

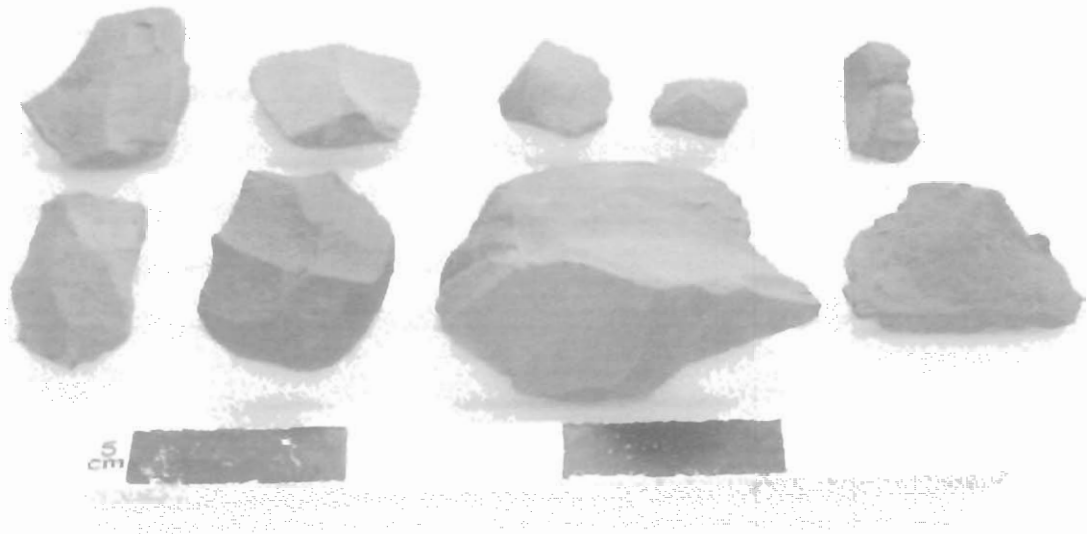


Fig. 21. Stone tools from Stone Circle 1.

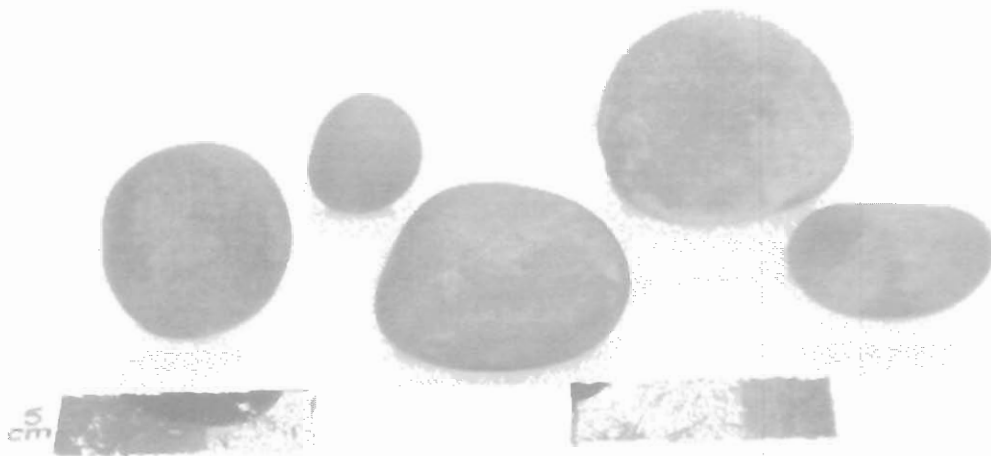


Fig. 22. Used river pebbles (hammer stones; retouch tools) from SC 1.