Birmingham University Field Archaeology Unit

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Warmwell Quarry, West Knighton, Dorset

by
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WARMWELL QUARRY, WEST KNIGHTON, DORSET:1991
AN ARCHAEOLOGICAL EVALUATION.

by Lynne Bevan and Jon Sterenberg.

INTRODUCTION

Following an earlier archaeological assessment of a field scheduled for gravel extraction at Warmwell Quarry, West Knighton (NGR SY742 888), (Figure 1), undertaken in November 1990, it was recommended that two areas, principally around the main concentrations of prehistoric flint artifacts, be stripped of topsoil and manually cleaned in order to plot any archaeological features encountered.

EVALUATION STRATEGY

The northern half of the field was stripped of topsoil by mechanical excavator, down to the natural subsoil, at a depth of some 0.40m, under controlled monitoring, the remainder of the field being under crop at the time of excavation. An area 100m x 50m, sub-divided into 25m squares (numbered 1–8), positioned over the main flint concentration, was cleaned by hand (Figure 2). In view of continuing gravel extraction from the field the eastern four 25m squares (1–4) were investigated first.

Each square was cleaned by hand, care being taken to plot any struck or worked flint, or flint flakes. Any features found were to be excavated after initial cleaning. In the 2500 square metres cleaned only one archaeological feature was located, a small kidney-shaped hearth (F1) (Figure 3). It was approximately 1.50m in length, 0.60m wide and 0.25m deep, containing a dark brown silty fill (1001) with a few flecks of charcoal, over which was an area of burnt red clay and charcoal (1002), approximately 0.15m in diameter. Careful excavation of the feature revealed that the fills were devoid of any pottery or struck flint.

Several other negative features were sampled, one of which, evident in the 1990 fieldwalking exercise, was undoubtedly caused by modern deep ploughing.

Fifty-eight variously struck flints were plotted in squares 1–4. Of the remaining four squares, (5–8), only two (6 and 7) were cleaned by hand but again few features of any interest were revealed. As with the eastern four squares all finds were recovered and plotted with the use of a total station EDM. Forty-eight finds of variously worked flints were recovered. Again only one archaeological feature was recorded in the 1250 square metres cleaned. This was another kidney-shaped hearth (F2) (Figure 3), similar in dimensions to F1, and again containing no finds. Two other features were also sampled, one of geological origin, the other a small area of ?modern burning, approximately 0.30m in diameter.

Several other flints were picked up from walking the other areas to be stripped for gravel extraction. These were assigned to areas A, X and Z (see Figure 2).

A number of features were observed in the natural gravel after initial gravel stripping; these were investigated, and were found to be either geological in nature or possibly tree pits, the fills of which, invariably a clean dark brown silt, contained no finds.

PREHISTORIC FLINT

A total of 179 struck flints, including 30 implements and cores, was recovered (Figure 4). Table 1, below, quantifies the results by area. (Figures 5–6 show illustrations of flint implements and cores recovered.)

As mentioned above, the 100m x 50m area was cleaned by hand prior to investigation in contrast to the adjacent areas which were walked in their original condition.

Finds were plotted with the use of a total station EDM in the main area of investigations: the research strategy employed in earlier work at Warmwell quarry.

In contrast to the 1990 study, the recovery rate was drastically reduced by two factors: firstly, the removal by machine of the topsoil, which was known from previous work in the field to contain archaeological material, prior to investigation of the subsoil. Secondly, the underlying deposit contained large quantities of natural flint ranging from complete nodules to plough- and machine-damaged pieces. The sheer volume of this naturally-occurring flint affected recognition and impeded recovery of the remaining prehistoric struck flints.

Therefore the research strategy was essentially selective, restricting collection to struck flakes and artefacts, with the understanding that the resulting poor collection represented an unknown percentage of the original assemblage of prehistoric flakes and artefacts lost and discarded in the field.

These factors, as well as the small size of the collection combined with the paucity of chronologically-diagnostic artefacts, influenced the interpretation, thus rendering spatial analysis of the finds, as previously employed in the area (Bevan and Dingwall 1990), meaningless.

Struck flint	Retouched flakes	A/heads	cores	scrapers
GRIDDED AREA				
88	18	1	3	8
AREA A				
41	–	–	–	1
AREA X				
12	–	–	1	3
AREA Z				
1	–	–	2	–

In previous studies a local source has been proposed for the flint raw material used in this region for the production of tools (Woodward 1989; Bevan and Dingwall 1990), the majority of which were manufactured from high quality translucent flint, dark grey to near-black in colour.

In this study, the majority of struck flakes and tools was manufactured from the light grey and beige opaque flint, much of which contains crystalline inclusions, abundantly present in the subsoil. The high incidence of aborted tools, including the single arrowhead rough-out, and the fact that none of the 12 scrapers recovered was complete, having being exhausted or abandoned during the manufacturing process, supports the theory of utilisation of this readily-availiable raw material and the difficulties involved in its working.

Interpretational problems are compounded by the lack of chronologically-diagnostic artefacts. Only one arrowhead was recovered, a rough-out of a foliate type, worked down one side with a flat-flaking technique and abandoned when the knapper encountered an impurity in the flake (Figure 6:10).

Neither are any of the 12 scrapers recovered sufficiently complete to allow convincing chronological or stylistic comparisons to be made with the three well-defined scraper groups identified from the same field during the 1990 investigations (Bevan and Dingwall 1990, Figure 3B).

Scrapers from the 1990 study conformed to well-defined groups both in terms of style and spatial relationship but no obvious parallels can be found in the subsequent scraper collection. Several examples exhibit a shallow-flaking technique reminiscent of Group 1 and 2 scrapers but differ in the raw material used: light grey and beige flint in contrast to the dark grey flint used for the manufacture of the majority of scrapers collected during the 1990 investigation. In the earlier scraper groups cortical traces were retained whereas they have been deliberately removed in examples from this collection (Figure 5:1–2).

Unfinished discoidal 'thumbnail' scrapers (Figure 5:7,8 and 9) worked around 50% of their circumference in the first two instances and around 90% in the third, were also recovered. Their flattened dorsals, from which the cortex has been almost completely removed, as well as the light grey and beige flint from which they are manufactured, imply a tentative parallel with scrapers from Group 3 (Bevan and Dingwall 1990 Figure 3B: 102) suggesting an Early Bronze Age date.

A broken scraper (Figure 5: 5) abandoned during the manufacturing process exibits extensive retouch along one side and is pressure-flaked from a curving shoulder. Naturally-occurring stripes in two shades of grey give the flint an unusual appearance which may have led

to its selection for tool making,but an inherent fault resulted in its discard prior to completion. Of the three scrapers not illustrated, two are at a very basic stage of manufacture and the third has been exhausted, discarded and subsequently burnt.

The six cores recovered attest to prehistoric flint working in the area and, without exception, are derived from the light grey flint of unpredictable quality containing crystalline inclusions, a type of flint which is present in the subsoil. Two examples were collected from area Z (Figure 6: 12–13), while a third was recovered from the main area of investigation (Figure 6: 11).

CONCLUSIONS

Although no convincing relationship can be established between the subsoil features described earlier in the text and the flint tools recovered during the 1990 and 1991 investigations, the depth and position of the possible hearth features in relation to cores and struck flint implies a prehistoric origin.

The results from this investigation suggest a separate, possibly earlier, phase of occupation to that defined during the 1990 investigations. On-site subsoil gravel flint sources were utilised while, in contrast, the majority of tools and flakes from the 1990 exercise were of the high-quality flint, dark grey to near black in colour, derived from off-site local chalk deposits.

In the absence of chronologically-diagnostic tools, only a very tentative dating can be proposed: Neolithic to Early Bronze Age, although it should be noted that the presence of a foliate arrowhead, unaccompanied by any other typically Neolithic tool types, may represent a single episode of casual discard rather than be indicative of an occupational phase of any duration.

It is recommended that any further archaeological monitoring in the immediate area in advance of gravel extraction should include intensive test-pitting of the topsoil in which the archaeological material is contained prior to its removal. Test pits would be excavated by hand and their contents seived. This would potentially increase the recovery of diagnostic implements and may give some insight into flint flake and artefact density in this area of established archaeological importance.

ACKNOWLEDGEMENTS

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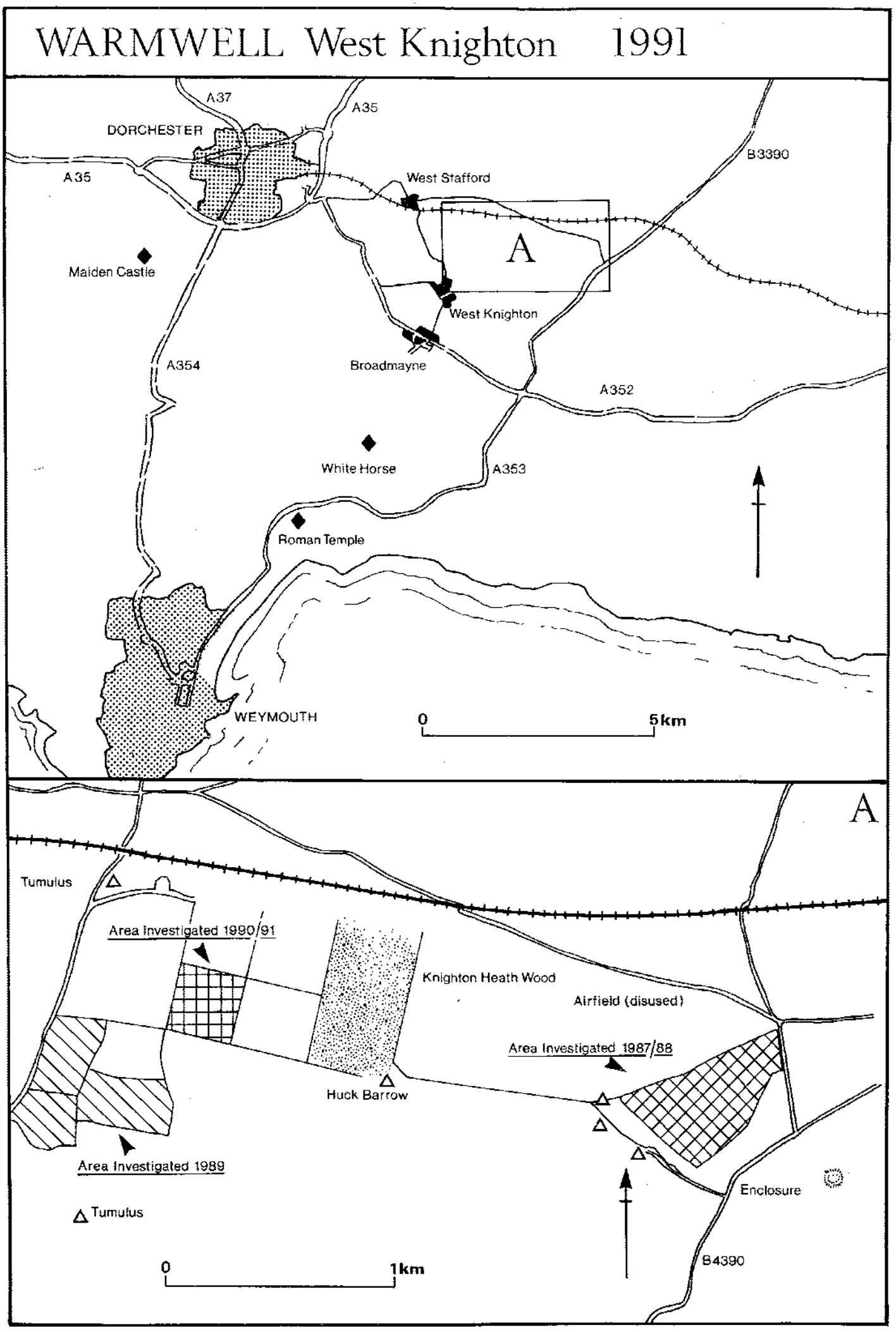
WARMWELL West Knighton 1991
A37
A35
DORCHESTER
A35
B3390
West Stafford
A
Maiden Castle
West Knighton
A354
Broadmayne
A352
White Horse
A353
Roman Temple
WEYMOUTH
0
5km
A
Tumulus
Area Investigated 1990/91
Knighton Heath Wood
Airfield (disused)
Area Investigated 1987/88
Huck Barrow
Area Investigated 1989
Tumulus
Enclosure
B4390
0
1km

Figure 1

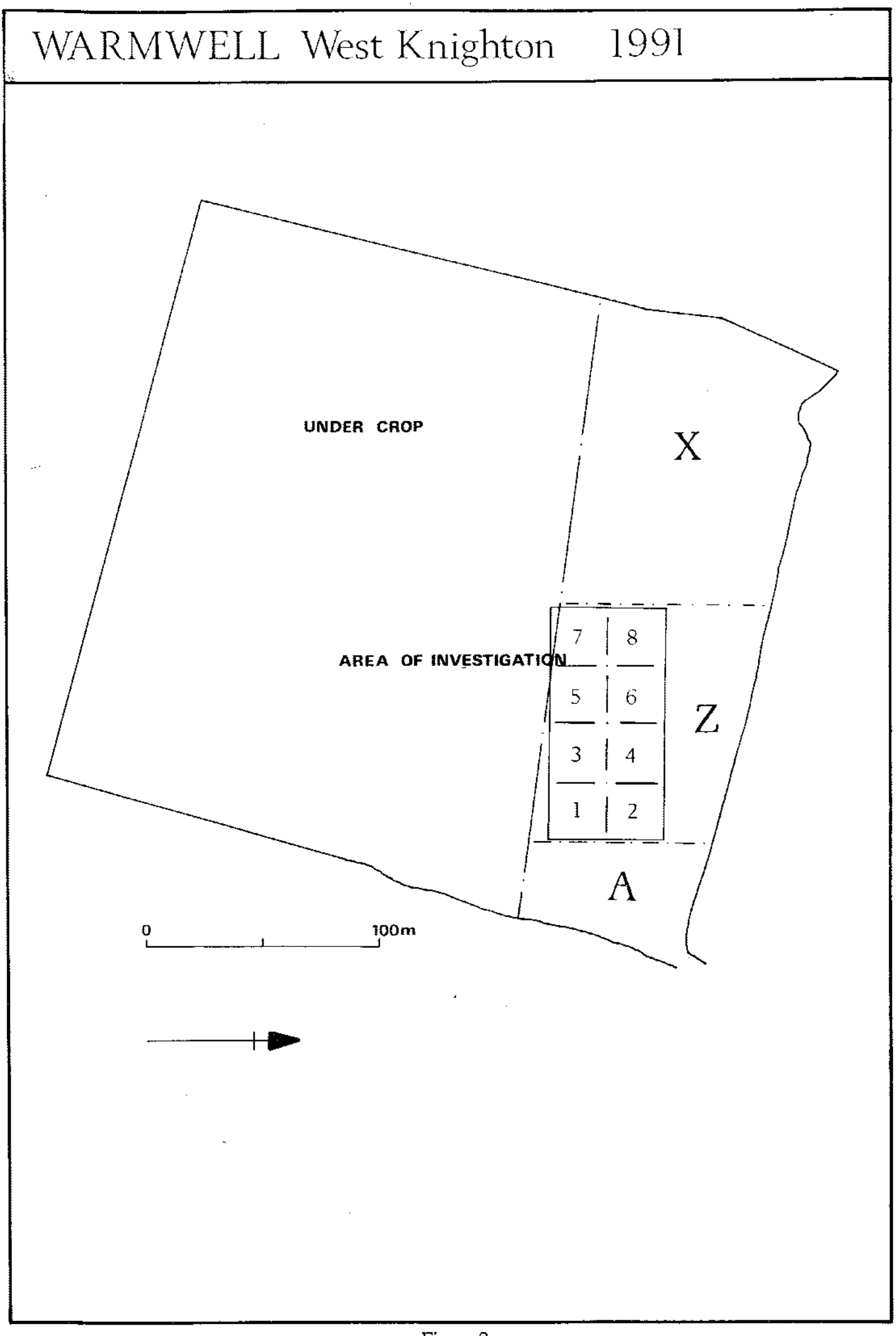
WARMWELL West Knighton 1991
UNDER CROP
X
AREA OF INVESTIGATION
7
8
5
6
3
4
1
2
Z
A
0
100m

Figure 2

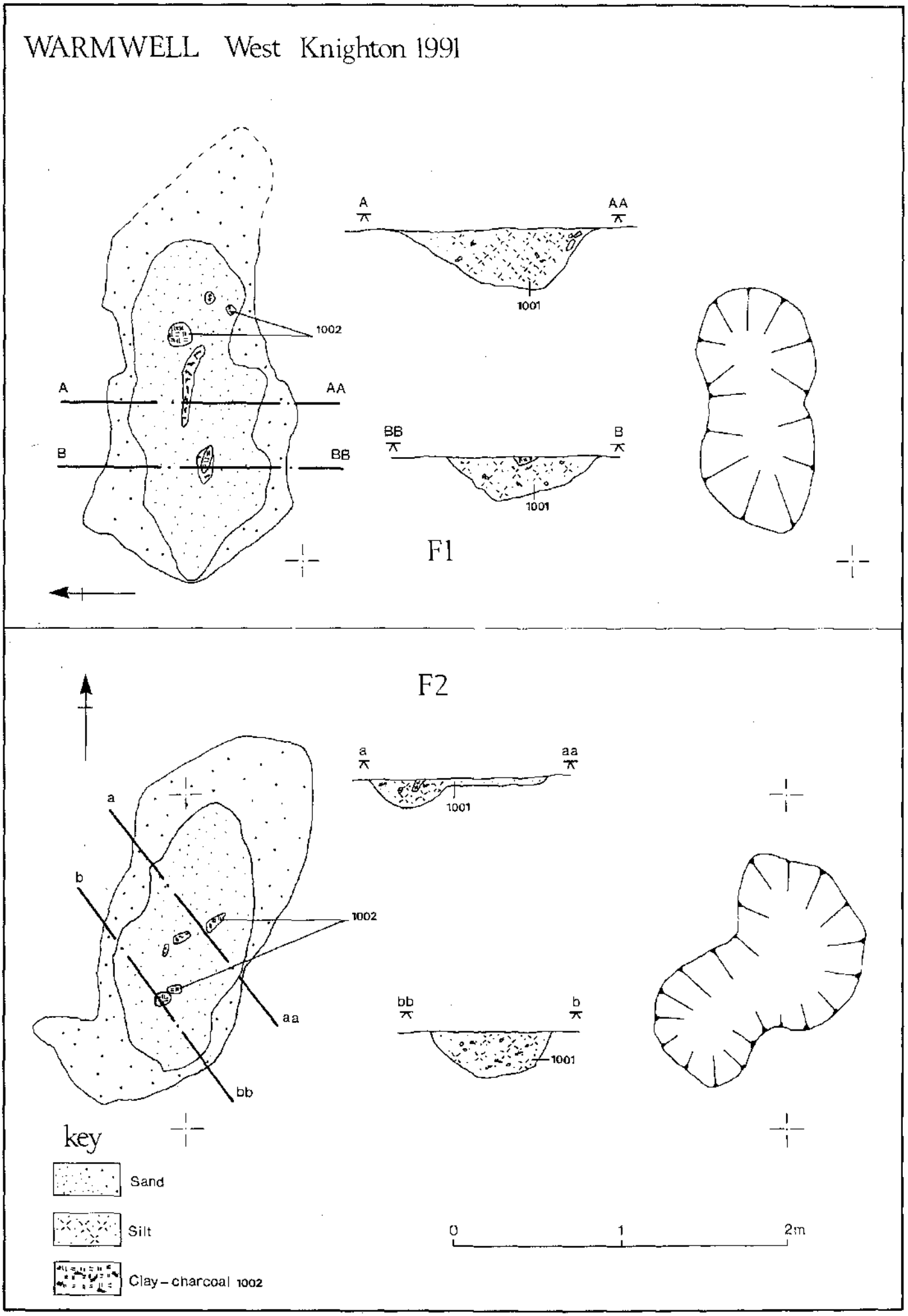
WARMWELL West Knighton 1991
A
AA
B
BB
1002
1001
F1
F2
a
aa
b
bb
key
Sand
Silt
Clay – charcoal 1002
0
1
2m

Figure 3

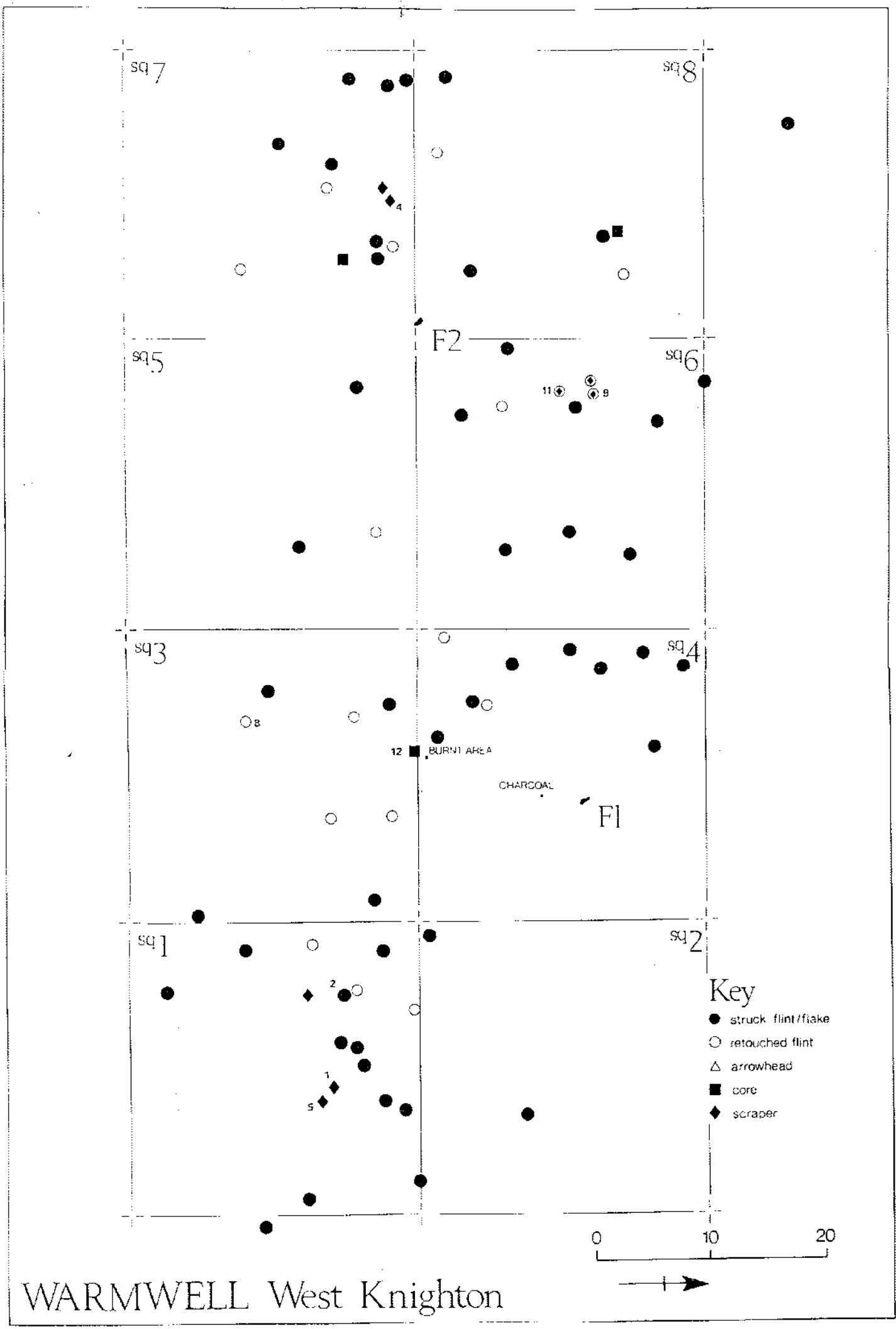
sq 7
sq 8
sq 5
sq 6
sq 3
sq 4
sq 1
sq 2
F2
F1
BURNT AREA
CHARCOAL
Key
struck flint/flake
retouched flint
arrowhead
core
scraper
0
10
20
WARMWELL West Knighton

Figure 4

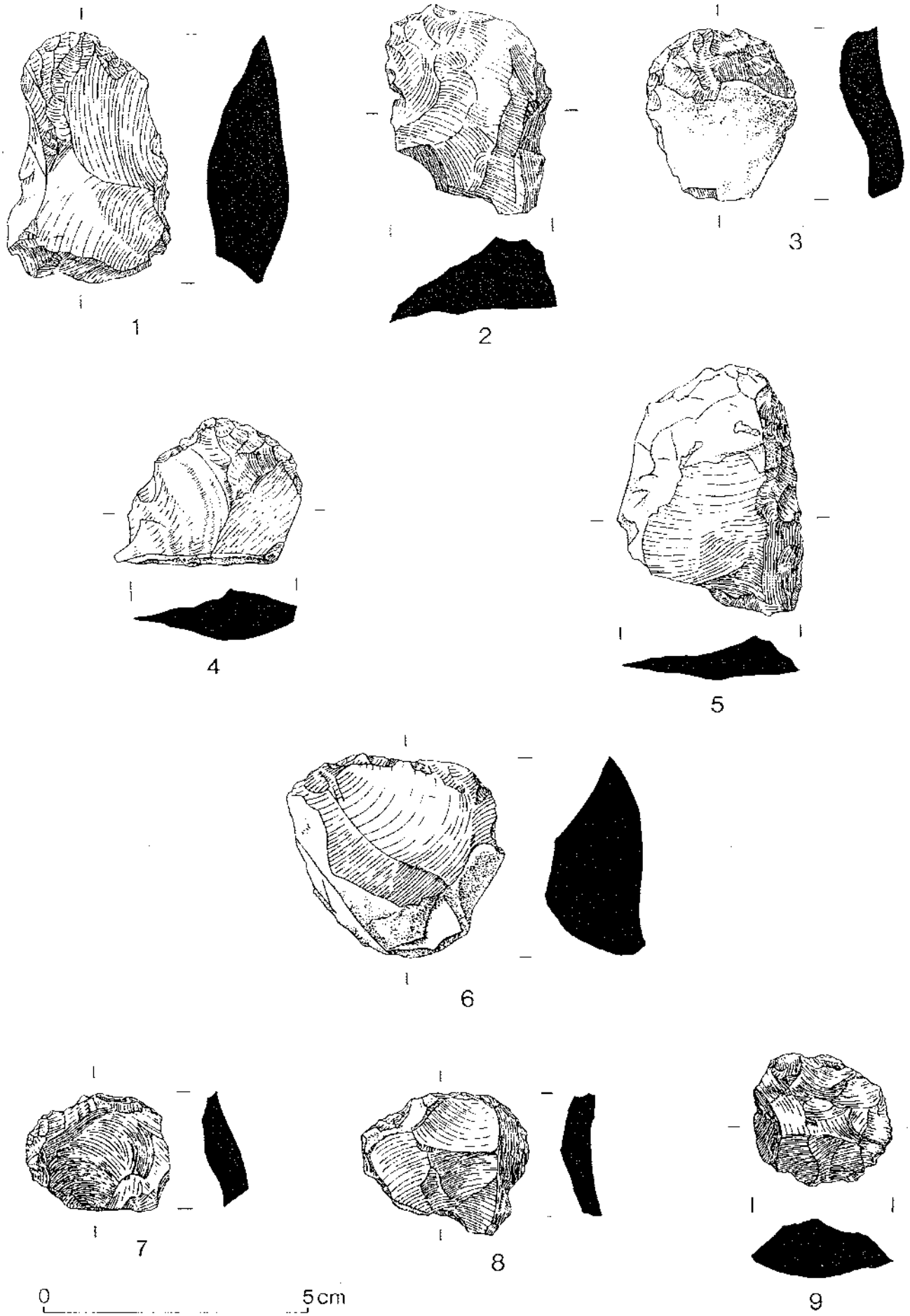

Figure 5

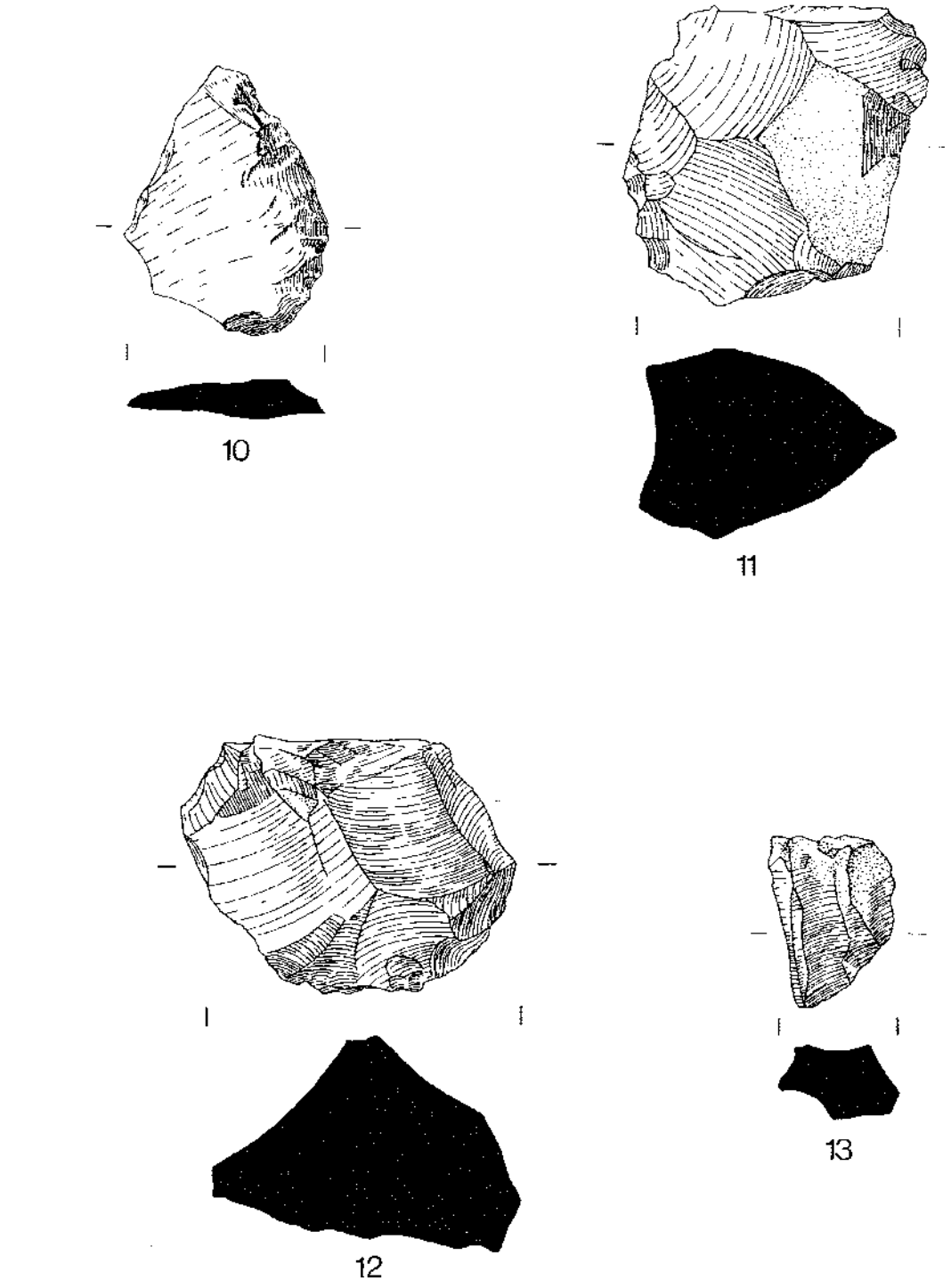

Figure 6