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**STONE AXE
STUDIES**

Volume 2

The petrology of prehistoric
stone implements from the
British Isles

edited by
T H McK Clough and
W A Cummins



1988

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The petrology of prehistoric stone
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**edited by T H McK Clough
and W A Cummins**

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Preface

In 1977 the Implement Petrology Committee of the Council for British Archaeology held a conference in appraisal of many years' work on the petrology of prehistoric stone implements. The proceedings of that conference were then published, under the same editorship as this volume, as *Stone Axe Studies* (CBA Research Report 23, 1979). At the same time it was resolved to achieve an eventual full publication of the several thousand petrological examinations that had been made since the deliberate programme of thin-sectioning originated, now some fifty years ago, and of which only a proportion had been published so far. This volume, which embodies these results, has thus been many years in the making.

The individual papers contain their own specific acknowledgements, and in many cases these reflect the indebtedness of those working in this field to those who began the programme and recognized its potential value to students of British prehistory. The editors echo these acknowledgements, and wish to stress how deeply the implement petrology programme has relied on the cooperation of corporate and private owners of the implements examined, without which it could not have continued on such a scale.

The development of the programme was described by Professor W F Grimes in *Stone Axe Studies*, as was the financial help of the Carnegie Foundation and the Leverhulme Trustees, and such details need not be repeated here. The work continues to be financed by annual contributions from the Council for British Archaeology, supported from time to time by museums and other institutions which help to underwrite the costs of examining specimens in their own care. A particular acknowledgement must be made to the Prehistoric Society, which has not only carried in its *Proceedings* most (though not all) of the major regional reports published to date, but has also generously allowed the results which they contained to be republished here, thereby enabling

the Committee to provide a full corpus of the available data.

Special thanks are also due to the Royal Commission on the Historical Monuments of England for adding the lists of identifications to its computerized archive in the NMR and for providing the data to the York Archaeological Trust for producing the distribution maps of grouped implements; and to the Mark Fitch Fund whose generous publication grant made this work possible. Thanks also to the British Museum (Natural History) for maintaining in its Department of Mineralogy a great many of the thin sections from English finds.

All the results of petrological examination published and discussed in the regional reports in this volume are presented as if they were current statements. However, allowance must be made for the time taken in the preparation of the volume, and for the fact that some of the papers were submitted sooner than others. Although a number of implements examined more recently than the date of submission are included in an addendum, there will be further results available by the time of publication. Any enquiries about the most recent state of the continuing programme of work may be directed via members of the Implement Petrology Committee and those assisting its work in the various regions, who will also be glad to receive offers of help and practical participation from archaeologists and petrologists alike.

The papers were edited jointly until the point of Dr Cummins' retirement from the University of Nottingham, and the process was completed by the other editor, who is grateful for the continuing support of the Committee and of the Director of the Council for British Archaeology and his staff in arriving at the completion of the volume, and for the enduring patience of the several authors, especially those whose papers were the first to be submitted.

T H McK Clough and W A Cummins
April 1987

Introduction to the regional reports: prehistoric stone implements from the British Isles

T H McK Clough

Abstract

Sets out the background to the reports, explains the arrangement of the volume, and comments on the philosophy of the implement petrology programme. Draws conclusions on the general picture of prehistoric stone implement manufacturing emerging from the combined petrological results. Stresses the need for further work especially in certain areas.

In this volume the Implement Petrology Committee of the Council for British Archaeology presents the results of examining over 7500 stone implements from the British Isles. These artefacts range in date from the earliest Neolithic - even earlier in some cases - to the Bronze Age; in type from polished stone axes to archers' wristguards; in quality from the finest jade to the coarsest roughout; and in composition from chalk to granite. They come from many known rock sources and places of manufacture, as far apart as the tip of Cornwall to the Northern Isles of Scotland, and from the random exploitation of glacial boulders far removed from their geographical origin. Together these implements comprise an extraordinarily extensive and varied cross-section of the stone tools and weapons made and used in Britain over a period of at least 3000 years.

The individual papers represent the several regions on the basis of which the implement petrology scheme is organized. For the most part the reports have been prepared jointly by those directly involved with the work in each region, either as archaeologists or as petrologists. In several cases (the south-west, East Anglia, east Midlands, west Midlands, Yorkshire) there have been earlier reports; where this applies, the previously published results are reproduced, but there is minimal repetition of discussions already in print. A few of the papers covering other regions also carry only a brief introduction, because the detailed interpretation of the material and the results has yet to be achieved. Yet others contribute significantly to the corpus of petrological data by including the definition of new petrological groups, notably those for Scotland in which a sample of the considerable quantity of material from north Britain is presented for the first time. In one or two reports a number of flint implements are included, either because

they were listed in the earliest stages of the work, or because flint is an unusual medium for the area and the specimens were therefore judged worthy of inclusion for that reason. It will be immediately apparent, therefore, that the treatment of the material varies considerably from one paper to another. Nevertheless, the Committee believes that the data here assembled and published will facilitate the study and understanding of this important range of artefacts, and that the volume will reveal the potential for further research, which undoubtedly exists in many areas.

As far as possible the *lists of identification* follow a standard format, as described by Davis *et al* for the south-west (ch 2). Any variations of approach are indicated by the individual authors. The problems caused by the rearrangement of county boundaries following the Local Government Act of 1972 have affected county numbering severely in some cases, not at all in others. Previously numbered and published specimens have not been renumbered, but in some areas newly examined specimens have been numbered according to the new county boundaries. There may be gaps in the sequences of county numbers; these may be due to the withdrawal of ethnographic or doubtful specimens, or to the present unavailability of certain implements for examination.

Implement types are described according to a consistent terminology as far as possible; local usages are defined in individual papers. Locality or findspot information varies considerably in reliability and accuracy, but normally the civil parish name is given, followed by that of a closer locality where known. National Grid references are given to four figures, or to six figures where there is sufficient detail. The original records, particularly for more recent finds, will often provide an eight figure reference, but accuracy to such a degree is unnecessary for the purposes of this volume. Most finds now repose in one public collection or another, and where possible museum accession numbers are given. Museum abbreviations may vary from one paper to another, but the major ones are standardized. Since the details of private ownership are liable to be out of date, implements so owned are normally shown simply as 'pp'.

The petrological identifications are to specific groups, or given in a brief form sufficient to indicate to a petrographer the nature of the rock in question. The

glossary of petrological terms given in *Stone Axe Studies* (Clough & Cummins 1979, 128-30) includes many of the terms used, and is not repeated here. Nearly all the identifications have been made by thin-section examination under the petrological microscope, but a few have been made macroscopically. The latter applies especially to flint and quartzites, to exceptionally fine specimens which even the most ardent petrographer would dread to section, and to some others which have not yet been sectioned for various reasons. Jadeites have normally been examined by the more sophisticated and less destructive techniques appropriate for such rocks.

Bibliographic references, archaeological associations and other relevant details are given in supplementary notes to each paper. These vary in detail according to the amount of information available in the records for each area. In many cases the earlier petrology records, some of which extend back over 50 years, may leave much to be desired and it has not yet been possible to devote the necessary research time to improving the original database. However in many other cases the information published here can be supplemented by reference to the record cards and to sites and monuments indexes maintained by museums services and archaeological units. Arrangements are currently in hand for the microfilming of the record cards for the National Monuments Record, where the descriptive record is now maintained as an active computer file and can be consulted accordingly. The majority of the thin sections for the English counties have been deposited at the Department of Mineralogy, British Museum (Natural History).

There has seemed little point in repeating illustrations of stone implements of types or groups already represented in the previously published regional papers in *Proc Prehist Soc* or elsewhere. Some of the implements illustrated in this volume represent newly defined petrological groups.

It seems appropriate now to draw attention to some of the features which emerge from a preliminary overview of the regional papers, and hence of the stone implement population of the British Isles which they describe, without in any way wishing to prejudice or detract from the statements and opinions which they contain.

The philosophies that lie behind a research programme of implement petrology such as this have recently been discussed by Clough and Woolley (1985), among others. As far as the CBA Committee's work is concerned, it is fair to say that there has been a certain amount of soul-searching as to how far it should be extended. In most of the English and Welsh counties, though less so in northern England, it will be seen that by now the great majority of known provenanced specimens in museum collections (other than the national collections) have been examined; in Scotland, however, it will be apparent that this is still far from being the case. Over much of Britain, then, the rate of current examinations has slowed to a trickle of new finds, including those from excavations.

How much more can be learned from these new finds, especially if they are apparently archaeologically unassociated strays? Should they simply be recorded, to become little more than a dot on a distribution map, and a few bytes of information in a computerized sites and monuments index? Or do we in any case have a duty to provide a fuller identification, including petrological data,

for the finders and owners of these specimens, who as laymen are fascinated to find that their casually discovered axe was made perhaps four or five thousand years ago of a rock from a source which may be two or three hundred miles distant? If the latter is the case, which as a museum curator the writer believes to be so, then the widening use of the coring method of sampling, described in chapter 1 by Fenton and Travis, will make the task much more publicly acceptable, and therefore much easier.

The sampling of totally unprovenanced material would appear to be archaeologically pointless. However the sampling of finds whose place of discovery is reasonably well recorded will add to the usefulness of sites and monuments indexes and assist the work of field archaeologists. The sampling of specimens from archaeologically stratified contexts in excavations will be of mutual benefit both to the excavators and to students of the material in question. Such stratified finds are particularly needed, because they will contribute most in terms of understanding the chronology of stone implements. Also of great value will be such work as takes place around their places of manufacture, where these are or become known. Overall, any newly available material will add to the steadily growing body of reference samples, and will be used to emphasize and clarify what is already known of the relative importance, influence and range of products of those petrological groups which are currently defined, and to assist in the closer definition of their petrology and in the identification of further groups.

The basic system of isolating specific rock types as individual petrological groups, as pioneered in south-west England (Keiller *et al* 1941), is well known and well tried. The background and development of the petrology survey have been amply described by Grimes (1979). The publication of this volume, it is hoped, will now provide an opportunity for the petrology programme to be reviewed and re-evaluated. The descriptions of and attributions to the many petrological groups which have been identified so far are not infallible. This is not to say that the groups as a whole are basically either wrong or misleading - simply that some of them require refinement, and that this can be accomplished more readily now that the whole corpus of material has been assembled for the first time.

The existing petrological groups are enumerated, and basic information about them is summarized in Table 3. This table supersedes the list of groups given in *Stone Axe Studies* (Clough & Cummins 1979, 127), and draws on the data compiled from all the regional reports in this volume, set out in Tables 1 and 2. Additional identifications in the Addendum to this Introduction are omitted from these tables, from the individual papers, and therefore also from this discussion. From Table 1 it is immediately clear that over half the 7625 implements included in the tables have been attributed to the currently accepted petrological groups. These include a newly identified group, XXVI, which though valid petrologically, is thought almost certainly to consist of a collection of 19th century fakes (Phillips *et al*, ch 9).

Closer analysis of the regional figures shows that in percentage terms there are currently much higher proportions of grouped to ungrouped specimens in many areas: over 70% in three northern areas (Lancashire/Cheshire, Cumbria, north-east England); over 60% in

Table 1 The overall numbers of stone implements examined from Great Britain whose identifications are reported in this volume

Region	Grouped	Ungrouped or not shown	Total	Percentage grouped
South-west England	498	992	1490	33.4
South-east England	124	352	476	26.1
London & Middlesex	75	40	115	65.2
East Anglia	330	300	630	52.4
South-east Midlands	175	117	292	59.9
East Midlands	623	280	903	69.0
West Midlands	236	179	415	56.9
Yorkshire	568	333	901	63.0
Lancashire & Cheshire	146	49	195	74.9
Isle of Man	18	22	40	45.0
Cumbria	289	99	388	74.5
North-east England	122	48	170	71.8
Scotland (axes)	339	155	494	68.6
Scotland (perforated)	184	88	272	67.6
Wales	305	350	655	46.6
Ireland	47	142	189	24.9
Totals	4079	3546	7625	53.5

four more (an inadequate sample from London/Middlesex, east Midlands, Yorkshire, Scotland-axes and perforated implements combined). Of those with proportions of grouped implements of less than 50%, the Isle of Man may be expected to provide a much higher figure in due course, when a more adequate sample of its home-produced axes has been examined. The very low figure for Ireland, though included in the Tables, must be discounted in practical terms for statistical purposes because the results have yet to be integrated into the system of petrological grouping, and comparatively little work has been done on identifying Irish sources apart from those of Group IX. There are known to be other Irish identifications which have not yet been listed. The figure of 46.6% for Wales would not appear to be distorted by any idiosyncracies of sampling, whereas some of the higher figures such as those of 74.5% for Cumbria or 68.6% for Scottish axes are distorted (as stressed in the relevant papers) by the basis on which implements have been selected for examination.

That certain areas may in any case be justifiably expected to produce higher percentages because of their proximity to the major manufacturing centres, of which Cumbria is certainly one, is perhaps suggested by the high figure of 73.8% for north-east England, where no such bias entered into the choice of samples for examination. However even in East Anglia, far removed from any grouped rock sources, over half the identified specimens have been allocated to known groups, emphasizing the effectiveness of prehistoric systems of exchange, of whatever nature. This being so, the low figures of 33.4% for south-west England and 26.1% for south-east England may well be regarded with some surprise, particularly bearing in mind their proximity to the sources of the undoubtedly important Group I and the various other less important Cornish groups; here there has been no evident bias in the selection of specimens, and known finds have been very fully covered. Perhaps there was simply a greater variety here in the availability of implements.

Apart from this apparent anomaly in the counties of southern England, it is clear that the general trend is for well over 50% of the implements to be attributed to the identified groups, a trend which is evidently not much affected by the size of the sample in different areas and which may be borne out by a series of relative frequency distribution patterns on the model established by Cummins (1979), now that more extensive and nationwide data are available.

A more particular examination of the results on a regional basis, as shown in Table 2, indicates some of the characteristics of the overall pattern of grouped products and their distribution. It suggests some of the directions that future research, both archaeological and petrological, may take in order to establish the regional trends in more detail. From this table it is at once clear that among a relatively small number of petrological groups of major importance one is paramount, namely Group VI. A larger number of groups are of moderate importance, and yet others are represented by so few specimens that their value as groups lies simply in their attribution to particular origins rather than in their known products. It must at once be stated that Group V, which consisted simply of two axes of a supposed Cornish origin (Keiller *et al* 1941, 56), has now been abolished and the relevant specimens reattributed to the more recently defined Group XXIV (Ritchie & Scott, ch 15), following comparative studies by Ritchie (in litt) of the relevant thin sections and the calc-silicate hornfels of the working site near Killin, Perthshire. The mineral assemblages are identical in their optical characteristics, and the structures and textures also match.

This episode serves to illustrate the problems that can arise from the occurrence of nominally similar rocks widely separated geographically. Such problems are also exemplified elsewhere in this volume. For instance there are enigmatic references to the possibility of an origin in the Great Langdale area of the central Lake District for certain Group VIII implements (Fell & Davis, ch 12, and

Table 2 The distribution of identified group products by region in the British Isles, based on currently available data

Region	Group I	Ia	II	IIa	III	IIIa	IV	IVa	VI	VII	VIII	IX	X	XI	XII	XIII	XIV	XV	XVI
South-west England	128	19	1	6	13	4	31	15	63	38	11	11	2	3	15	21	2	2	64
South-east England	42	1	—	2	3	2	4	—	22	13	1	8	2	—	2	6	1	—	2
London & Middlesex	2 4	1 6	—	—	1	—	1	—	1 9	1 1	1	5	—	—	—	—	1	1	3
East Anglia	6 7	2	2	—	1	1	2	—	121	17	4	8	—	—	3	3	1	6	3
South-east Midlands	2 4	1	—	—	1	—	—	—	103	12	5	2	—	—	—	—	3	3	—
East Midlands	3 1	—	—	—	—	—	—	—	357	86	10	5	—	—	8	—	9	22	3
West Midlands	2 0	—	—	—	—	—	—	—	48	39	16	5	1	—	42	1	10	33	1
Yorkshire	36	—	—	—	1	—	—	—	310	42	3	8	—	—	2	—	—	16	2
Lancashire & Cheshire	3	—	—	—	—	—	—	—	44	7	—	1	—	—	—	1	1	83	—
Isle of Man	—	—	—	—	—	—	—	—	10	1	—	—	—	—	—	—	—	—	—
Cumbria	—	—	—	—	—	—	—	—	240	—	2	1	—	5	—	—	—	2 9	—
North-east England	3	—	—	—	—	—	—	—	6 3	—	—	2	—	—	—	—	—	5	—
Scotland (axes)	—	—	—	—	—	—	—	—	1 8	6 1	—	8 0	—	—	—	1	—	—	—
Scotland (perforated)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1	—	—	—	—
Wales	14	—	—	—	—	—	—	—	22	120	66	2	—	2	20	9	—	3	—
Ireland ²	—	—	—	—	—	—	—	—	4	—	—	4 3	—	—	—	—	—	—	—
Totals	392 ¹	29	3	8	20	7	38	15	1612	387	119	181	5	10	9 3	42	28	203	78
% of total	9.6	<1	<1	<1	<1	<1	<1	<1	39.5	9.5	2.9	4.4	<1	<1	2.3	1.0	<1	5.0	1.9

¹ These figures include 8 axes identified as I/Ia² Twelve implements from Ireland listed in the Fourth Report (Evens *et al* 1962) are excluded so as to avoid the possibility of duplication

references there). There can be little doubt, from the data relating to Group VIII products as shown in Table 2, that the centre of distribution lies in south-west Wales. However, it is quite possible for another silicified tuff of similar composition, distinguishable from it only by the identification of individual features in thin section after the examination of as many samples as possible, to appear in the Lake District. Professor F W Shotton now indicates (CBA Implement Petrology Committee minutes, 7 May 1986) that the present allocations to Group VIII may be attributable to three sub-groups. The implications of further research are awaited. There is a similar problem in relation to Group XX with its accepted origin in Charnwood Forest, but again with the possibility of petrographic parallels in the Lake District (Fell & Davis, ch 12). These are simply one or two of the problems which the results now available in this volume may help to clarify.

It has long been known that the various axe-factory sites of the central Lake District, mainly in the Great Langdale and Scafell area, were among the most important of all Neolithic axe-producing areas in Britain, flint-mines included. It was this knowledge that influenced the choice of cover illustration for *Stone Axe Studies* (from Darbshire 1873), representing axes recovered from the habitation site at Ehenside Tarn, Cumbria. However it is not until all the available results are amassed, as in Table 2, that it becomes clear exactly how dominant Group VI products are in both England and Scotland. Of the 4079 grouped identifications recorded here, 1612 (39.5%) are of Group VI products. Even allowing for a number of multiple identifications, flakes from excavated sites, or roughouts and rock samples from the factory sites themselves, this represents 21% of all available petrological results. Group VI thus outnumbers its nearest rivals (Group I from Cornwall and Group VII from Caernarvonshire) by four to

one. It also outnumbers the total of all the known Cornish groups (I-IVa, XVI, XVII and XIX) by three to one, and the total of known Welsh groups (VII, VIII, XII, XIII, XXI, XXIII) by slightly less favourable a ratio.

The extent of Group VI distribution exemplifies the complexity of inter-regional contacts in Neolithic Britain, whatever mechanisms of trade, barter or exchange were involved. Group VI products may have found it difficult to gain an entry to Wales, where only 22 (7.2% of the grouped sample) are recorded, but the comparable and more distant axe-producing region of south-west England has yielded three times that number of Group VI axes (12.7% of the grouped sample). They are very widely distributed through eastern England, the Scottish data now available show the extent of their northward distribution, they are found in the Isle of Man, and it is foreseen that many additions will be made to the few tentative identifications contained in the Irish report. It would come as no surprise to this writer to learn of the eventual identification of a few Group VI products in northern France (*pace* French colleagues who may believe that the dominance of Type A dolerite products (Group X) was such as to prevent such an intrusion). Clearly the attested longevity of the Lake District production sites is a significant factor in assuring their domination over other, less important groups, as well as the effectiveness and attractiveness of the axes themselves. Studies of the chronological *floruit* of individual groups are therefore important.

In any assessment of the Group VI assemblage as now available, it is essential to remember that, as Fell & Davis (ch 12) point out, a great deal more petrological work needs to be done. The aims of this work will be firstly to clarify the true extent of the rock exposures worked, and to define the variations and limits of their petrography much more closely; secondly to identify and define other

including 'near group' attributions (this volume)

XVII	XVIII	XIX	XX	XXI	XXII	XXIIIa/b	XXIV	XXV	XXVI	XXVII	XXVIII	XXIX	XXX	XXXI	XXXII	XXXIII	XXXIV	Total
13	11	20	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	498
1	3	4	5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	124
—	1	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	75
1	56	3	28	—	—	1	—	—	—	—	—	—	—	—	—	—	—	330
1	5	—	11	—	—	2	2	—	—	—	—	—	—	—	—	—	—	175
1	4	8	41	—	—	—	2	—	—	—	—	—	—	—	—	—	—	623
—	3	—	7	8	—	2	—	—	—	—	—	—	—	—	—	—	—	236
—	115	—	10	—	—	—	1	—	22	—	—	—	—	—	—	—	—	568
—	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	146
—	—	—	—	—	—	—	—	7	—	—	—	—	—	—	—	—	—	18
—	6	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	5	289
—	23	—	1	—	—	—	2	—	1	19	3	—	—	—	—	—	—	122
—	—	—	—	—	3	—	30	—	—	—	—	—	—	—	23	15	—	339
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	184
										136		27	9		8	3	—	305
																		47
17	278	27	110	33	3	26	37	7	23	155	30	9	8	3	23	15	5	4079
<1	6.8	<1	2.7	<1	<1	<1	<1	<1	<1	3.8	<1	<1	<1	<1	<1	<1	<1	

rocks in the same area which were also exploited but to a much lesser degree, perhaps because they proved to be less accessible or less suitable. Group XI may be among these, but its distribution is too irregular for it to be adequately assessed at present. It may be expected that many of the ungrouped tuffs and rhyolites will eventually be shown to originate from the Borrowdale Volcanic series of which Group VI is a member. It is therefore encouraging to note a continuing interest on the part of workers not directly connected with the implement petrology survey in the products and sites of the central Lake District. The full results of fieldwork undertaken as part of a land management exercise on behalf of the National Trust (P Claris, *in litt*), and through a research project being undertaken by R Bradley, are awaited with considerable interest. In the meantime the most recently published summary of the Lake District axe factories, apart from Fell & Davis (ch 12), is probably this writer's paper of 1979, inconveniently (for a British audience) translated into German.

Nearly all the published discussions of stone implements in recent years have depended mainly on incomplete series of identifications, best exemplified in Cummins' relative frequency distribution maps (Cummins 1979), where even he was obliged to omit Cumbria, Northumbria and Scotland through lack of adequate data. Now, however, the availability of northern English and Scottish results will enable all this information to be assimilated in proper relationship to the more southerly data, on the basis of the nationwide distribution maps which follow these papers. The new petrological data from Scotland prepared by Ritchie & Scott and by Fenton for axes and perforated implements respectively is therefore of great importance, and attention may be drawn especially to the methodology adopted by Fenton when dealing with petrographic samples whose range includes previously established Groups. The solution adopted may be paralleled by that already found for Groups XIII/XXIII, where XIII is properly a sub-group of XXIII and the limits of variation of Group XXIII itself are defined as *a* and *b* (Shotton 1972). Thus the long established, though

still imperfectly understood Group XV is recognized by Fenton as a sub-group of XXVII, and XVIII as a sub-group of XXVIII.

This seems a more realistic approach to the problem of sub-groups, and of implements which are petrographically near to, but not identical with, certain groups, than that followed in early days by the pioneering south-western petrologists Wallis and Evens. Their work is reflected in the proliferation of 'a' groups (Ia, IIa, etc) among the south-western material. If sub-groups are constructed now, this is on the basis of their sharing specific, but subordinate and relevant petrographic features - not simply on their general but imprecise approximation to the group in question, which may be a misleading resemblance. The implication therefore is that, just as detailed examination of Group VI and related rocks may result in greater precision of identification and attribution, so also must similar close reappraisals of the Cornish greenstones and other rocks now taken as originating in south-west England, whether grouped or ungrouped. These now call urgently for detailed attention and renewed field survey.

One aspect of petrographic studies and their interpretation discussed in several papers is that of the relevance of glacial erratics. This writer is not inclined to enter deeply into the argument, but prefers to reflect on the wisdom of accepting that the opportunist axe-maker will inevitably have taken advantage of suitable pieces of rock laid before him by courtesy of glacial transport, whether or not finished axes traded from remote sources of manufacture were available on local market stalls.

Naturally the problem does not arise in the case of rocks from southern England, such as the Cornish greenstones, which by no stretch of the imagination could have been exported northwards and eastwards other than by the hand of man. However, it is much less easily susceptible of solution in the case of coarser-grained rocks occurring in northern England and Scotland for which there are no specific or restricted outcrops, recognizable quarry sources or known points of exploitation.

This applies, for instance, to rocks such as the

quartz-dolerites of the Whin Sill (Group XVIII) and the associated rocks (Group XXVIII) now identified by Fenton, and to the many rocks and implement types whose methods of working and manufacture have recently been discussed by him in conjunction with practical experiments (Fenton 1984). His conclusion that cobble-blanks probably provided better raw material than pieces of rock from scree and outcrops merits comparison with the comments made earlier by Coope (1979) with regard to such coarser-grained rocks and the ways in which they could be worked, and the possibility raised elsewhere in this volume that coastal sources were exploited in north-east England. In contrast, such explanations are most unlikely to apply to fine-grained rocks whose 'self-advertising' (Coope 1979) sites are well attested. However efficient Neolithic and Bronze Age man was as a field-geologist (and this whole volume reflects his effectiveness in this regard), he is unlikely to have traced these rocks to source from an intermittent trail of glacial erratics.

The most valid conclusion does indeed appear to be that most stone axes originated from deliberately exploited rock sources, with some made from random pebbles including a high proportion of glacial erratics. The likelihood that more than a coincidental fraction of the latter could be attributed to established petrological groups is remote. On the other hand the incidence of battle-axes and axe-hammers, and of pebble-hammers and maceheads, of rock types which were subject to glacial distribution and randomly exploited for this purpose, is probably rather higher, and may indeed account for a much more significant proportion of shaft-hole implements. Crucial in evaluating this material will be more detailed assessments of the typology of these implements, following the lead most effectively given in several papers by Roe (1979 and elsewhere). A high degree of typological conformity among implements of the same petrological definition from widely distributed findspots would logically imply an identity of source more readily than would a diversity of typological form. Given that some petrological groups definitely produced shaft-hole implements from restricted outcrop sources in areas beyond the effects of glaciation, it again seems logical that the same would have applied where suitable rocks outcropped in northern Britain. It seems that much further research is needed before an accurate balance of probabilities can be achieved, and the arguments adequately resolved, in this particular debate.

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Table 3 British stone implement petrology groups

Group	Petrology	Source	Distribution	Products	Primary reference
I	Uralitized gabbro, epidiorite or greenstone	Mount's Bay area, near Penzance, Cornwall	Particularly abundant in SW England; widespread and important throughout southern and central England and Yorkshire	Axes and perforated implements	Keiller, Piggott & Wallis, <i>PPS</i> 7 (1941) 51
Ia	Close to Group I	SW England	Very rare beyond SW England	Mainly axes	Stone & Wallis, <i>PPS</i> 17 (1951) 105
II	Epidiorite or greenstone	nr St Ives, Cornwall	Exceedingly rare	Axes	Keiller, Piggott & Wallis, <i>PPS</i> 7 (1941) 55
IIa	Close to Group II	SW England	Very rare	Mainly axes	Stone & Wallis, <i>PPS</i> 17 (1951) 106
III	Epidiorite or greenstone	nr Marazion, Cornwall	Very rare beyond SW England	Mainly axes, but perforated implements are also known	Keiller, Piggott & Wallis, <i>PPS</i> 7 (1941) 55
IIIa	Close to Group III	SW England	Very rare	Mainly axes	Stone & Wallis, <i>PPS</i> 17 (1951) 106
IV	Altered picrite	nr Callington, Cornwall	Of some local importance in the SW, otherwise very rare	Axes	Keiller, Piggott & Wallis, <i>PPS</i> 7 (1941) 56; redefined by Evens, Grinsell, Piggott & Wallis, <i>PPS</i> 28 (1962) 215
IVa	Sheared greenstone, close to Group IV	SW England	Rare, found only in SW England	Axes	Stone & Wallis, <i>PPS</i> 13 (1947); defined by Stone & Wallis, <i>PPS</i> 17 (1951) 114; redefined by Evens et al <i>PPS</i> 28 (1962) 215
V	The reference to this Group in Keiller, Piggott & Wallis, <i>PPS</i> 7 (1941) 56, should now be withdrawn, the relevant implements now being allocated to Group XXIV				
VI	Epidotized intermediate tuff of the Borrowdale Volcanic Series	Prolific factories in the Great Langdale and Scafell ares of the central Lake District	Very widely distributed and abundant throughout the British Isles, accounting for over 20% of all published stone implement identifications	Almost exclusively axes, with a few perforated specimens; many roughouts recorded in northern England	Keiller, Piggott & Wallis, <i>PPS</i> 7 (1941) 58
VII	Augite granophyre	Factories in the Penmaenmawr area, Caernarvonshire	The most important group in Wales, and widespread and locally abundant throughout England	Almost exclusively axes; many roughouts known in Wales	Keiller, Piggott & Wallis, <i>PPS</i> 7 (1941) 61

VIIa	Stone & Wallis, <i>PPS</i> 17 (1951) 121. Later given full Group status as Groups X (qv), the number VIIa being withdrawn				
VIII	Silicified tuff	SW Wales	Important in Wales, and widespread in central England	Mainly axes	Keiller, Piggott & Wallis, <i>PPS</i> 7 (1941) 63. A similar rock may occur in the Lake District (Fell & Davis, ch 12)
VIIIa	The reference to this Group in Evens et al, <i>PPS</i> 28 (1962) 217, should be withdrawn, the implement cited (He 12/c) now being identified as Group VIII				
IX	Porcellanite	Factories at Tievebulliagh and Rathlin Island, Co Antrim	Important in Ireland and in Scotland; widespread in England and Wales but relatively uncommon	Mainly axes; rough-outs occur near the factory sites	Keiller, Piggott & Wallis, <i>PPS</i> 7 (1941) 63; further references in Francis, Francis & Preston (ch 17)
X	Fine epidioritized dolerite	Factories at Sélédin, nr Plussulien, Brittany (dolerite type A)	Extremely abundant in NW France, but exceedingly rare in Britain	Mainly axes; a few other types are known in France	Coagné & Giot, <i>Bull Soc Prehist Fr</i> 49 (1952) 388-95; Evens et al, <i>PPS</i> 28 (1962) 218; further references in Le Roux, in <i>Stone Axe Studies</i> (ed Clough & Cummins) (1979) 49-56
	Note: an earlier Group X (Stone & Wallis, <i>PPS</i> 13 (1947) 52) and Group Xa (Stone & Wallis, <i>PPS</i> 17 (1951) 127) have been superseded.				
XI	Fine silicified tuff	Great Langdale area of the Lake District	Very rare spasmodic distribution	Axes	Stone & Wallis, <i>PPS</i> 13 (1947) 52; see also Fell & Davis (ch 12)
XII	Picrite	nr Hyssington, Shropshire/Montgomeryshire (Powys) border	Abundant in Wales and the West Midlands, thinly distributed elsewhere	Battle-axes and axe-hammers	Shotton, Chitty & Seaby, <i>PPS</i> 17 (1951) 159
XIII	Spotted dolerite (preselite), within the range of Group XXIII (qv)	Preselau Hills, Pembrokeshire (Dyfed)	Rare outside Wales, but important as the 'Blue Stones' of Stonehenge	Mainly perforated implements, but axes are known	Stone & Wallis, <i>PPS</i> 17 (1951) 128
XIV	Camptonite	nr Nuneaton, Warwickshire	Of some local importance in the Midlands, otherwise sparsely distributed	Perforated implements	Shotton, <i>PPS</i> 25 (1959) 135
XV	Micaceous sub-greywacke; in a Scottish context, within the range of Group XXVII (qv)	Southern Lake District	Widespread and locally abundant in northern and central England, particularly as axe-hammers	Mainly axe-hammers, though other perforated implements and axes are known	Shotton, <i>PPS</i> 25 (1959) 137

XVI	Epidiorite or greenstone	nr Cambourne, Cornwall	Locally abundant in the SW, rare elsewhere in southern England	Mainly axes	Evens et al <i>PPS</i> 28 (1962) 220
XVII	Epidiorite or greenstone	nr St Austell, Cornwall	Very rare beyond SW England	Mainly axes, but perforated implements are known	Evens et al, <i>PPS</i> 28 (1962) 223
XVIII	Quartz dolerite; in a Scottish context, within the range of Group XXVIII (qv)	Generally in the Whin Sill of northern England	Widespread and locally abundant, especially in eastern England	Mainly perforated implements, but axes are not uncommon	Evens et al, <i>PPS</i> 28 (1962) 224
XIX	Greywacke	Probably in Cornwall	Very rare beyond SW England	Axes and a variety of other implements	Evens et al, <i>PPS</i> 28 (1962) 226
XX	Epidotized and ashy grit	Charnwood Forest, Leicestershire	Widespread and locally abundant, especially in eastern England	Mainly axes, but perforated implements are known	Shotton, <i>PPS</i> 25 (1959) 141
XXI	Baked shale	Factory at Mynydd Rhiw, Caernarvonshire	Of some local importance in Wales, otherwise found only occasionally in the West Midlands	Mainly axes	Houlder, <i>PPS</i> 27 (1961) 113ff
XXII	Riebeckite felsite	Factory in the Northmaven district of Shetland	Extremely rare (at the present level of sampling)	Axes and other unperforated implements	Ritchie, in <i>Studies in ancient Europe</i> (ed Coles & Simpson) (1968) 128ff (group number allocated after publication); defined more closely by Ritchie & Scott (ch 14)
XXIII	Ranges from graphic pyroxene granodiorite (XXIIIa) to quartz dolerite (XXIIIb). Group XIII is an individual rock type within the petrographic and geographic range of Group XXIII, published earlier as a group in its own right	Between the Preselau Hills and St David's Head, Pembrokeshire (Dyfed)	Of some local importance in Wales, very rare elsewhere	Mainly axes, but perforated implements are known, especially from XXIIIb	Shotton, in <i>Prehistoric man in Wales and the west</i> (ed Lynch & Burgess) (1972) 89
XXIV	Calc-silicate hornfels	Factory on Creag na Caillich, nr Kilin, Perthshire	Locally important, but Scotland, very rare elsewhere	Axes	Ritchie, in <i>Studies in ancient Europe</i> (ed Coles & Simpson) (1968) 126ff (group number allocated after publication)
XXV	Altered quartz diorite or tonalite	SW of Douglas, Isle of Man	Locally important, but as yet unknown outside the Isle of Man	Axes	Coope, ch 11
XXVI	Carbonate mudstone	Lias of north Yorkshire	Locally important in Yorkshire, virtually unknown elsewhere, and of doubtful authenticity	Mainly axes	Phillips, Cummins & Keen, ch 9

XXVII	Greywacke; three differentiated sub-groups XXVIIg , garnetiferous; XXVIIm , thermally metamorphosed with secondary biotite; XXVIIv , volcanic-rich. In a Scottish context, Group XV forms a small part of Group XXVII	Southern uplands of Scotland	Widespread and abundant in southern Scotland, also found in northern England	Perforated implements, especially axe-hammers	Fenton, ch 15
XXVIII	Quartz dolerite; one differentiated sub-group: XXVIIIc , coarse quartz dolerite with plagioclase laths. In a Scottish context, Group XVIII forms part of Group XXVIII	Various sources in northern England and Scotland	Widespread in southern Scotland	Perforated implements	Fenton, ch 15
XXIX	Essexite	Central Ayrshire	Rare	Perforated implements	Fenton, ch 15
XXX	Hornblende lamprohyre	Northern Scotland	Rare	Axe-hammers	Fenton, ch 15
XXXI	Basic andesite	Possibly in Orkney	Very rare	Battle-axes	Fenton, ch 15
XXXII	Epidiorite or altered dolerite	Possibly in the Dalradian of northern Scotland	Locally important in Aberdeenshire	Axes	Ritchie & Scott, ch 14
XXXIII	Biotite-silliminite-quartz-schist; one differentiated sub-group: XXXIIIa , andalusite-bearing schist	Possibly in Aberdeenshire	Locally fairly important in Aberdeenshire	Axes	Ritchie & Scott, ch 14
XXXIV	Leucogabbro	Carrock Fell, Cumbria	Very rare, found only in Cumbria at present	Axes and axe-hammers	Fell & Davis, ch 12

Addendum

The following results are additional to those in the individual papers.

The implements in question are not included in any of the discussions, tables or maps in the volume.

County number	Serial number	Type of implement	Findspot or locality	NGR	Museum or collection	Petrology
South-west England						
Cornwall						
CO 415	1816	axe pt	Stithians, in reservoir	SW 709371	p p	IV
CO 416	1821	axe	Paul, Mousehole	SW 467268	pp	nr IV
CO 417	1822	axe pt	St Levan, nr bottoms	SW 386241	p p	nr I
CO 418	1823	s-h adze pt	St Martin's, Scilly English Is Carn	SV 938154	Truro Mus	decomposed dolerite
Devon						
DEV 160	1817	axe	Otterton, Lansfield	SY 087843	p p	IVa
DEV 161	1819	axe	Kentisbury Sch	SS 620435	Kentisbury Sch	greenstone
DEV 162	1824	axe	Peter Tavy, Aggator Brook	SX 560811	p p	nr I
Dorset						
DO 162	1825	axe	Iwerne Stepleton, Stepelton Enclosure	ST 856115	Dorchester Mus	nr XVII
DO 163	1825	axe	Gussage St Michael, Wyke Down	SU 006152	p p	VIII
Gloucestershire						
G 130	1815	axe flake	Cowley, nr Birdlip	SO 932154	lost	VI
G 131	1820	axe	Leckhampton	SO 944182	p p	sub-ophitic dolerite
Wiltshire						
WI 414	1826	axe fr	Liddington Castle	SU 2079	Salisbury Mus	decomposed dolerite/ spilite
East Anglia						
Suffolk						
S		axe	Thorpeness	TM 475608	p p	greywacke
South-east Midlands						
Oxfordshire						
OXON 72		axe pt	Ashbury, Waylands Smith	SV 281854	Reading 23.67	Greenstone
OXON 73		axe fr	Rollright stone circle	SP 297308	Oxford Archaeol Unit	I
OXON 74		axe	Clanfield	SP 2802	p p	nr I
OXON 75		axe	Stonesield	SP 3917	p p	hornblende granulite
OXON 76		axe	Barrow Hills, Radley	SU 518984	Oxford Archaeol Unit	nr I
OXON 77		axe fr	Barrow Hills, Radley	SU 518984	Oxford Archaeol Unit	VI
Lancashire/Cheshire						
Cheshire						
CH 70		b-a	Church Lawton, Alsager	SJ 8456	Univ Liverpool, Sch Extension Studies XII	

1 A method for taking petrological samples from stone implements

M B Fenton and R J A Travis

Abstract

A core drilling technique for sampling stone implements produces a sample large enough for multiple analyses, while keeping surface damage and restoration requirements to a very low level, constant and independent of sample size.

Introduction

This volume brings published petrological identifications of British stone implements to a total of over 7500. Almost all of these have been identified by microscopic examination of thin sections taken from the implements. Thin-sectioning inevitably involves cutting and therefore damaging the implements. Even though the cuts can be repaired almost invisibly, the restorations have sometimes been far from satisfactory. Concern over damage to the implements caused considerable delays in the early development of implement petrology (Grimes 1979), and is still an important factor today (Clough & Woolley 1985).

Bishop and Woolley (1973) introduced the use of the thin-wire saw to stone implement petrology, and applied it particularly to the study of jade axes. One of the advantages they listed for the thin-wire saw was the considerable reduction in the width of the cut. A disadvantage to be set against this is that the cutting is slow, and the thin-wire saw is not widely used in geological laboratories. The method described here, which has been in use at Nottingham for several years, is based on the coring method used in France (Le Roux 1975, 55; 1979, 49).

Method

A thin-walled, water-cooled, diamond core-drill is used to penetrate the artefact at a suitable point, such as a damaged part of the surface. The core (Fig 1a) left in the artefact after withdrawal of the drill is broken off at the base by gentle leverage with a tool such as a small screwdriver blade, and removed.

The top 2 mm of the core (Fig 1 b), bearing the original artefact surface, is sawn off. This, and all further cutting,

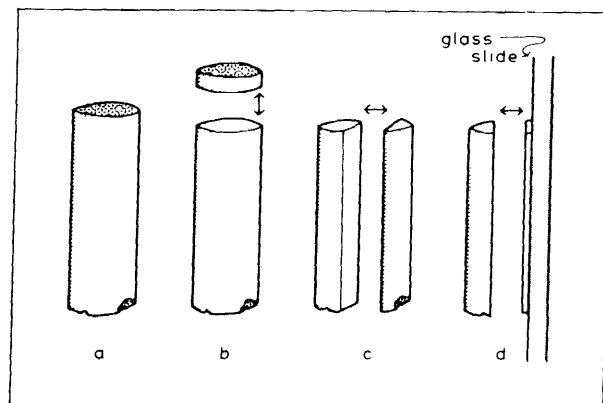


Fig 1 Treatment of a core after extraction from an implement a) core after extraction; b) 'cap' bearing original artefact surface is sawn off; c) remainder of core is sawn in two longitudinally; d) the larger section of core, after being ground smooth, is mounted on a glass slide and the excess rock is cut off

is carried out using a thin (0.5 mm) diamond circular saw, to keep wastage to a minimum. This 'cap' is later replaced in the artefact as part of its restoration, following a suggestion by Professor P E Baker.

The remaining part of the core is then sawn in two longitudinally using a simple plastic jig to hold it in position. The cut is made slightly off-centre in order to obtain the largest possible section (Fig 1c). The larger piece is ground flat, mounted on a glass slide (Fig 1d), and the surplus rock is then sawn off. The thin section is then prepared in the usual fashion, and the two remaining parts of the core stored for future use.

To restore the artefact the hole resulting from the coring is partly filled with clean, dry sand or some similar inert material, then topped up with plaster of Paris, with a little water-colour paint added to match the colour of the artefact. The core 'cap' is placed on the wet plaster and squeezed down to its original position (Fig 2). Before it is fully dried, surplus plaster squeezed from the annulus is removed and the plaster texture is matched to that of the surrounding surface. Finally the dry plaster is painted to complete the restoration.

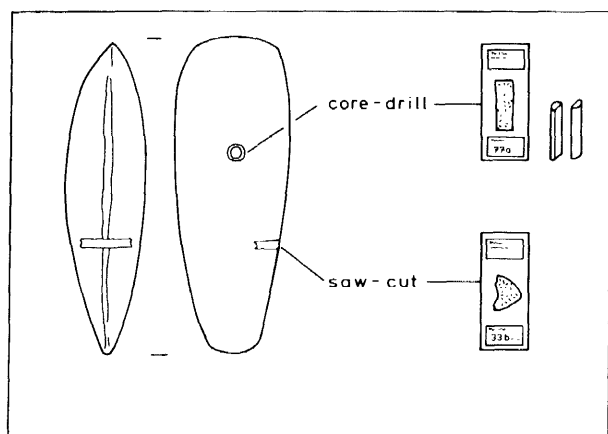


Fig 2 Diagrammatic comparison of the saw-cut and core-drill techniques

The size of the core required is dependent on a number of factors, particularly the grain-size and homogeneity of the rock, and the analytical techniques likely to be used to identify the rock and trace its source. A thin-walled drill that produces cores of 9 mm diameter about 30 mm long is thought to represent a reasonable compromise between the damage caused to the artefact and the demands of most research. Such a core can provide a thin section that is of adequate proportions and, with careful cutting, about 1 cm³ of surplus material.

The depth of drilling is limited only by the thickness of the artefact and the length of the drill. If a larger sample is required, it is possible, with care, to take two consecutive cores from the same entry point, provided the artefact is thick enough. However if a short core is all that can be obtained, as is the case with many small axes, several circular sections can be cut from this to provide an adequate area for microscopic examination.

Diamond core drills are readily obtainable. The one in

use in the Geology Department at Nottingham is supplied by Diagrit Tools Ltd, Staplehurst, Kent. They should be attached to a standard engineers' bench drill, fitted with a coolant transfer jacket.

Comparison of techniques

The advantages of the coring technique over the saw-cut method are summarized in Fig 2 and as follows.

1) Damage to the artefact may be considered largely in visual terms. Extraction of a 9 mm diameter core and subsequent replacement of the 'cap' destroys only about 0.3 cm² of artefact-surface, whereas even the most careful saw-cutting usually removes more than 1 cm². So coring causes far less visual damage.

2) The saw-cut method produces only one thin section, whereas coring yields a thin section plus extra material, which may be used for geochemical or other analyses, or stored for future research. Alternatively, with careful cutting, up to five thin sections may be prepared.

The saw-cut technique, especially the thin-wire saw, still has important applications, for example when sampling flakes or artefacts too slender to be cored. For most other artefacts the coring technique is superior, satisfying more closely the requirements of museum and researcher alike.

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2 The petrological identification of stone implements from south-west England

Sixth Report of the Sub-Committee of the South-Western Federation of Museums and Art Galleries

*Prepared on behalf of the Committee by
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Committee (1983): Professor Stuart Piggott (Chairman); Mr F K Annable; Mr J Beavis; Mr C L Cram; Mr D P Dawson; Mr H L Douch; Mr L V Grinsell; Mr S C Minnitt; Dr S M Pearce; Mr M W Pitts; Mr A Saville; Mr W H Scutt; Dr J J Taylor; Mr N Thomas; Mr M Watkins; Dr Hilary Howard (Hon Petrologist); Dr I F Smith (Hon Secretary)

Abstract

Details of 1501 identifications are presented. The list comprises first the specimens, rearranged in county order and revised as necessary, from the seven south-western counties and from Jersey that were first published in the five reports issued between 1941 and 1972. Specimens examined between 1972 and August 1983 are then listed, with notes on significant associations. The addendum (above) contains particulars of a further 12 implements identified up to May 1986 but not included in tables or discussion. Attention is drawn to the large and petrologically varied assemblages of implements from earlier Neolithic enclosures on Carn Brea, Cornwall and Hambledon Hill, Dorset.

Introduction

The five reports previously issued (Keiller *et al* 1941; Stone & Wallis 1947; 1951; Evens *et al* 1962, 1972) covered a total of 1288 specimens from Berkshire, Cornwall, Devon, Dorset, Gloucestershire, Somerset, Wiltshire and Jersey. The identifications in the first three reports were republished in the fourth (1962), where many of the earlier petrological attributions were revised. The present complete list of identifications for the south-west incorporates the relevant entries in the 1962 list and the whole of the 1972 list, with exceptions and emendations noted *seriatim* below. It also gives details of the 237 specimens examined between 1972 and August 1983. Only a few specimens have been examined subsequently.

Reorganization of county boundaries in 1974 produced several alterations within the region as previously defined. The new county of Avon, created from parts of Gloucestershire and Somerset, now appears as a separate entity in the records; specimens recorded before 1974 retain their original county numbers. The addition to Oxfordshire of the northern half of Berkshire has entailed the transference to the south-east Midlands survey of 22

specimens (Berkshire county numbers 2,5-7, 13-14, 16, 23, 25-26, 28-29, 32, 36-37, 41-43, 47, 57-58, 60) which are therefore included in the tables for the south-east Midlands (ch 6) and not in this paper. No corresponding adjustment has been made for implements from the strip of south-west Hampshire that is now in Dorset.

Although the Channel Islands are formally assigned to the south-west region, the Sub-Committee considers that any systematic investigation of the petrology of stone implements from the islands could best be undertaken as a separate project. Therefore no additions have been made to the 17 axes from Jersey recorded before 1972.

The system of allotting to each specimen both a county number and a serial number is continued, but from serial number 1642 onwards county rather than serial numbers have been written on specimens. County numbers are also employed when referring to individual specimens in the present text. Abbreviations of county names now in use are: Avon, AV; Berkshire, BER; Cornwall, CO; Devon, DEV; Dorset, DO; Gloucestershire, G; Somerset, SO; Wiltshire, WI; Jersey, J.

Microfilm copies of existing record cards were made in August 1974. Sets in the form of microfiches are kept in the National Monuments Record, Fortress House, 23 Savile Row, London W1X 1AB, and in the Department of Prehistoric and Romano-British Antiquities, British Museum, London WC1B 3DG. The sets include records of the following: Berkshire 1-70; Cornwall 1-356; Devon 1-138; Dorset 1-122; Gloucestershire 1-103; Somerset 1-128; Wiltshire 1-393; Jersey 1-17.

As museums in the region have continued to catalogue their reserve collections, a considerable number of previously unexamined implements have been submitted. A fairly small residue is known to exist, but it seems unlikely that any substantial quantity will come to light from museums or from private collections. Nearly three-quarters of the items included in Part 2 of the list of identifications were discovered between 1970 and 1983. Many of the privately owned implements were forwarded by museums.

The Committee's thanks are extended to the officers of all the museums who have helped to maintain the flow of additions, particularly to: Bristol City Museum; Cheltenham Art Gallery and Museum; Devizes Museum; Dorset County Museum; Royal Albert Memorial Museum, Exeter; Gloucester City Museum; Somerset County Museum, Taunton; Salisbury and South Wiltshire Museum; County Museum and Art Gallery, Truro. The Committee also acknowledges with thanks the large contribution made by private owners, too numerous to name individually, who have allowed their implements to be sectioned, and to excavators who have forwarded their finds directly.

Petrological identifications for south-west England were made by the late Dr F S Wallis and the late Mr E D Evens until May 1973, subsequently by R V Davis (until the middle of 1979) and Hilary Howard (from March 1981). Other petrologists who have provided individual identifications and/or expert advice are: Dr A C Bishop (DO 135); Dr R Bradshaw (DO 160); Dr B C M Butler (DO 159); Dr W A Cummins (DO 135, G 108, G 123, SO 143); Mr M R Dobson (DEV 137); Dr D P S Peacock (DEV 141-2, 144-5, 157); Dr W J Phillips (DEV 134-6); Professor F W Shotton (G 126-7); Dr A R Woolley (WI 412-13). Particulars of two jade axes (DO 148a and SO 130) are derived from published sources.

Table 4 The distribution of newly recorded specimens from the south-west with the current totals for individual counties

County	Additions	Totals
Avon	4	4
Berkshire	5	49
Cornwall	59	414
Devon	28	160
Dorset	47	164
Gloucestershire	35	129
Somerset	29	150
Wiltshire	30	414
Jersey	—	17
Totals	237	1501

Comments on additions and tables

Discrepancies between Table 4 and figures shown in Tables 5-9 are due to the omission from Tables 5-9 of five implements that were recorded but not sectioned and for which there is no macroscopic description, of a further two for which the sections were lost before examination, and of one ethnographic stray (BER 18). In two instances the same implement was inadvertently recorded twice: one complete axe (BER 1/8) and joining parts of one axe (WI 2/19). The totals for specimens from each county will not in all cases tally with the highest county number given in the overall list of identifications: one Gloucestershire number (G 64) is void because it was assigned to an implement which later proved to have been found just outside the county boundary, and some county numbers (shown, for example, as DEV 27a) have been duplicated.

Table 5 provides a summary of the complete list of identifications. Tables 6 and 7 analyse the petrological information for grouped and ungrouped products. Tables 8 and 9 show the county distributions of grouped and ungrouped axes.

The following observations should be borne in mind when considering the figures given in the tables. 1) Figures for axes include dubious specimens (indicated as 'axe?' in the list) as well as fragments and flakes. Where many small pieces of grouped axes come from the same site it is probable that the number of identifications exceed that of the original axes represented. 2) Some of the products placed in the miscellaneous category (pounders, rubbers, etc), particularly the few made of grouped rocks, may well be reused axe fragments, no longer recognizable as such. 3) Among the products of grouped rocks are five which were attributed on the basis of macroscopic inspection only: four axes (BER 39/40; DEV 97; G 58) to Group VI and an axe-hammer (WI 133) to Group XIII. 4) Two of the battle-axes made of ungrouped rocks may be of Continental origin (G 84, 123), and one axe (WI 223) is made of emery from the Aegean (Evens *et al* 1962, 229). All three could be relatively recent imports.

Grouped rocks

Identifications made since 1972 are summarized below. Attention is also directed to the revised identifications for seven implements from Berkshire. These are taken from Sanderson's review (1970) of thin sections held by the Institute of Geological Sciences (now the British Geolo-

Table 5 Summary of products identified from south-west England

	Axe	Battle-axe	Axe-hammer	Shaft-hole adze	Mace	Pebble-hammer	Perforated disc	Miscellaneous	Rock'	Total
Grouped	406	21	12	6	6	1	1	28	17	498
Jade	26 ²	—	—	—	—	—	—	1 ¹	—	27
Ungrouped	457	23	19	36	12	54	5	209	150	965
Totals	889	44	31	42	18	55	6	238	167	1490

¹ including pebbles

² including an atypical example (DEV 131)

³ a bracer (BER 67)

gical Survey). There have been no additions to the implements ascribed to Groups II,IIa, IIIa, IX, X, XI, XII, XIII and XIV. Groups XXI onwards are not represented. Group V, described in the first report (Reiller *et al* 1941, 56) as a calc-silicate hornfels perhaps originating from a source near St Ives, Cornwall, is now withdrawn, following the identification of Group XXIV (Ritchie 1968; Clough, Introduction). No Group V implements had been identified in south-west England.

Group I

Revised identifications: one axe (BER 30) now assigned to this Group and another (BER 62) reclassified as Group XVI.

Additions: 19 implements, comprising 18 axes (CO 356, 358, 363, 386, 387, 394, 398, 401, 409, 414; DO 123,127, 131,146,147,157; G 103; SO 144) and one shaft-hole adze (DEV 146). DO 123 and 127 may be parts of a single axe.

Associations: CO 358 and 363 were recovered from the Neolithic settlement on Carn Brea. DO 146 and 147 came from the ditch of a long barrow on Hambledon Hill, where one of them lay in an early deposit. DO 157 came from a pit containing sherds of Grooved Ware.

Group Ia

Addition: one axe (SO 142).

Group III

Addition: fragment of an unclassified artefact (DO 156).

Association: from a pit containing Grooved Ware and DO 155, a greenstone axe.

Group IV

Additions: four axes (CO 357, 371,388; DO 125).

Associations: CO 357 and 371 are from the Neolithic settlement on Carn Brea. DO 125 is from the causewayed enclosure on Hambledon Hill.

Group IVa

Additions: three axes (DEV 135, 138; SO 127).

Associations: DEV 135 is a surface find from the site of the Neolithic settlement on Hazard Hill. SO 127 is from South Cadbury Castle where there is other evidence of Neolithic activity.

Distribution: the 15 axes ascribed to this Group are confined to Devon, Dorset and Somerset. Ten are from excavated Neolithic sites.

Group VI

Additions: 13 axes (CO 404; DEV 134,140; DO 140,141; G97,109,121, 124, 125, 126, 129; WI402).

Associations: DEV 134 is a surface find from the site of the Neolithic settlement on Hazard Hill. DO 140, from Hambledon Hill, and G 125, from Peak Camp, were recovered during excavations of causewayed enclosures.

Distribution: the three axes from Cornwall and Devon double the number previously recorded from those counties. It may be noted that CO 404 is attributed to the same locality as the only two Group VII axes known from Cornwall (CO 131, 135). WI 402, an old find, adds a further example to the small concentration of Group VI axes from the causewayed enclosure on Windmill Hill and its vicinity. Group VI axes from Gloucestershire now account for nearly half of all grouped axes from that

county and for nearly one-third of all axes of this Group from the region as a whole (Table 8).

Group VII

Revised identifications : two axes (BER 20, 21) now assigned to this Group.

Additions: five axes (DO 154; G 104; SO 139, 146,147).

Association: DO 154 comes from a generally later Neolithic context.

Group VIII

Additions: three axes (EO 139; G 100; WI 410).

Associations: two are from causewayed enclosures, DO 139 from Hambledon Hill, and WI 410 from Windmill Hill (discovered in 1982 among unwashed flints from the excavations of 1925-29).

Group XV

Products: one axe (SO 126) and a battle-axe (AV 2).

Distribution: these two implements are the first to be identified in the region.

Group XVI

Revised identifications: two axes (BER 31, 62) now assigned to this Group.

Additions: eight axes (CO 372,391,400,410; DEV 159; DO 124, 133; SO 143).

Associations: CO 372 and 410 are from the Neolithic settlement on Carn Brea. DO 124 and 133 are from the causewayed enclosure on Hambledon Hill. SO 143, from the Somerset Levels, is dated c 2300 bc.

Group XVII

Additions: one axe (CO 360) and one shaft-hole adze (DO 122).

Association: CO 360 is from the Neolithic settlement on Carn Brea.

Distribution: the thirteen implements ascribed to this Group are confined to Cornwall, Devon and Dorset. Seven of the eleven axes are from excavated Neolithic sites.

Group XVIII

Revised identifications: one axe (BER 19) and one battle-axe (BER 4) now assigned to this Group.

Addition: one battle-axe (G 119).

Group XIX

Additions: two axes (CO 399, WI 404).

Group XX

Additions: three axes (BER 70; G 101; SO 124).

Association: BER 70 is from a Bronze Age enclosure; the chronological implications are discussed in Smith (1979, 13,20).

Distribution: these additions enlarge the area of distribution; the two axes previously recorded from the region came from Windmill Hill, Wiltshire (WI 25, 368).

Other rocks

Since 71% of the specimens newly published in the list of identifications are made of rocks other than those

Table 6 Products from grouped rocks from south-west England

Group and probable source	Axe	Battle-axe	Axe-hammer	Shaft-hole adze	Mace	Pebble-hammer	Perforated disc	Miscellaneous	Rock	Total
Cornwall										
I	110	2	1	3	3	—	—	8	1	128
Ia	17	—	—	—	—	—	—	2	—	19
II	1	—	—	—	—	—	—	—	—	1
IIa	6	—	—	—	—	—	—	—	—	6
III	10	1	—	—	—	—	—	2	—	13
IIIa	3	—	—	—	—	—	—	1	—	4
IV	31	—	—	—	—	—	—	—	—	31
IVa	15	—	—	—	—	—	—	—	—	15
XVI	61	—	—	—	—	—	—	3	—	64
XVII	11	1	—	1	—	—	—	—	—	13
XIX	8	—	—	2	—	1	—	9	—	20
Lake District										
VI	61	—	—	—	1	—	—	—	—	63
XI	3	—	—	—	—	—	—	—	—	3
XV	1	1	—	—	—	—	—	—	—	2
Midlands										
XII	—	6	9	—	—	—	—	—	—	15
XIV	—	2	—	—	—	—	—	—	—	2
XX	5	—	—	—	—	—	—	—	—	5
Wales										
VII	34	—	—	—	1	—	—	—	3	38
VIII	11	—	—	—	—	—	—	—	—	11
XIII	2	1	1	—	1	—	—	3	13	21
NE England										
XVIII	3	7	1	—	—	—	—	—	—	11
NE Ireland										
IX	11	—	—	—	—	—	—	—	—	11
Brittany										
X	2	—	—	—	—	—	—	—	—	2
Totals	406	21	12	6	6	1	1	28	17	498

Table 7 Products from ungrouped rocks' from south-west England

Rock	Axe	Battle-axe	Axe-hammer	Shaft-hole adze	Mace	Pebble-hammer	Perforated disc	Miscellaneous	Rock	Total
Tuff and ash	45	1	—	3	—	—	—	4	12	65
Dolerite	37	7	2	4	2	2	—	6	2	62
Granite	1	2	1	—	—	3	—	9	—	16
Rhyolite	6	1	—	—	—	—	—	3	25	35
Greenstone and epidiorite	206	5	3	9	5	5	—	37	15	285
Spotted slate	13	—	1	—	—	—	—	4	2	20
Other slates	15	1	—	1	—	—	—	10	4	31
Shale	7	—	—	—	—	—	—	6	—	13
Quartzite	13	—	—	4	4	19	2	18	16	76
Sandstone	31	1	6	12	—	17	—	52	30	149
Greywacke	4	1	—	—	—	2	—	4	4	15
Limestone	5	—	—	—	1	1	—	8	4	19
Others (less than 12 specimens each)	74	4	6	3	—	5	3	48	36	179
Totals	457	23	19	36	12	54	5	209	150	965

¹Except jade (see Table 5)

discussed above and over 30 varieties of rock are involved, some of them represented by only one or two specimens, comments are confined to those of particular interest (jade) or which occur in significant numbers (tuff and ash, dolerite, greenstone and sandstone).

Jade

Revised identifications: four axes (DO 45; WI 32 1; J 15, 17) previously considered to be chloromelanite (Evens *et al* 1972, 245) are reclassified as jadeite (Jones *et al* 1977: jadeite axes 15, 41, 70, 72).

Additions: three axes, all jadeite (DO 135, 148a; SO 130).

Associations: DO 135 comes from the causewayed enclosure on Hambledon Hill. SO 130, a fine ceremonial axe found beside the Sweet Track in the Somerset Levels, is dated c 3200 bc.

Note Two nephrite axes from Gloucestershire (G 69, said to have been found 'in the Cleeve Hill area', and G 81, from Battledown, Charlton Kings) were discounted in the fifth report as probably of ethnographic origin (Evens *et al* 1972, 244) and were omitted from the relevant summary tables. Both axes are, however, included in Table 5. G 69 appears in a recent list of nephrite axes from the British Isles (Jones *et al* 1977, 293, no 3) and proves to be very similar in shape and size to an unprovenanced nephrite axe in Dorset County Museum (*ibid* 290, no 7 and pl 23). Although G 81 was omitted from the above list, Dr A R Woolley has since confirmed (*in litt*) that the rock is nephrite, as originally published.

Tuff and ash

Additions: 29 specimens, comprising 23 axes (AV 1, 3; BER 68, 69; CO 369, 405, 407; DEV 141, 153; DO 128, 143, 150; G 106, 107, 110, 111, 113, 114, 115, 120; SO 140; WI 390, 400), two shaft-hole adzes (G 127, SO 125), a grain-rubber (CO 362), and three unclassified artefacts (CO 367; WI 384, 411). Two axe fragments (G 106, 107) from the same site are petrologically identical and may derive from a single axe.

Associations: one axe (CO 369), the grain-rubber (CO 362) and an unclassified artefact (CO 367) are from the Neolithic settlement on Carn Brea. One axe (DO 143) is from the causewayed enclosure on Hambledon Hill. A second unclassified artefact (WI 411) was recovered from the fill of a grave dug into the Stonehenge ditch.

Distribution: the increment of 29 implements increases significantly the representation of ungrouped tuffs and ashes in the region, where axes made of these rocks now account for nearly 10% of the ungrouped axes. The tuffs are, perhaps surprisingly, well represented in Cornwall and Devon (Table 9). The petrology is variable and investigations have failed to indicate any local source.

Dolerite

Additions: six axes (CO 396, 412; DEV 136; SO 13 1,135; WI 388) and two battle-axes (DO 159, G 123).

Association: DEV 136 is a surface find from the site of the Neolithic settlement on Hazard Hill.

Greenstone

Specimens made of altered basic igneous rocks, presumed to originate from Cornwall and Devon but not conforming to any of the recognized petrological groups, account for

18% of the new attributions in the list of identifications. Because of the large number, only a summary is given below.

Additions: 43 specimens, comprising 32 axes, a shaft-hole adze, a possible mace fragment, a pebble-hammer, a rapier mould (DEV 152), part of an unclassified artefact, five rock fragments and one flake.

Associations: nine axes (CO 361, 364, 366, 368, 370, 376, 378, 385, 411), the five rock fragments (CO 375, 377, 379, 381, 384) and the unclassified artefact (CO 380) are from the Neolithic settlement on Carn Brea. Two axes (DO 126, 134) are from the causewayed enclosure on Hambledon Hill; the flake (DO 149) is from the nearby Stepleton Enclosure. A further five axes are from Later Neolithic/Early Bronze Age contexts: DEV 139; DO 117, 118; and DO 152, 155.

Distribution: half of the ungrouped greenstone axes were found in Cornwall and Devon (Table 9).

Sandstone

Additions: fourteen specimens, comprising four axes (DEV 147; G 122; WI 385, 398), part of a battle-axe or axe-hammer (DO 132), three shaft-hole adzes (SO 134-136), two rubbers (CO 402, DO 119), a hone (CO 406), part of an unclassified artefact (WI 397) and two pebbles (CO 365, DEV 150).

Archaeological considerations

The 235 additional identifications now contained in the list have not, on the whole, produced many unpredictable alterations in patterns already established for the south-west. There has been a first appearance for Group XV (two specimens), some extension of the distributions of Groups VI and XX, and a substantial increase in the number of axes made of ungrouped tuffs and ashes. However, comparison of Tables 6-9 with their counterparts in the fifth report (Evens *et al* 1972, 246-7) will show that there have been only slight fluctuations overall, generally of less than 2%, in the proportional representation and county distributions of the products of grouped rocks and of the commoner varieties of ungrouped rocks.

Since nearly all the products of grouped rocks in the region have been taken into account in recent papers concerned with the implications of the distribution patterns of stone axes (Cummins 1979; 1980), with the typology of shaft-hole implements (lists and maps in Roe 1979), and with the chronology of production and use (Smith 1979) further general discussion of these matters would be superfluous here. Attention will therefore be confined to points of interest arising from two major excavations directed by Mr R J Mercer between 1970 and 1982: at the complex of Neolithic monuments on Hambledon Hill, Dorset (interim report in Mercer 1980) and at the fortified Neolithic settlement on Carn Brea, Cornwall (fully reported in Mercer 1983).

Fresh evidence relating to the timing of the dispersal of Group I axes has come from Hambledon Hill, where a small fragment (DO 147) has been found in a deposit dated around 2750 bc. Since the site lies at a distance of some 250 km from the source of the rock, this find invalidates the suggestion (Smith 1979, 17) that in the earlier part of the 3rd millennium bc Group I axes might have reached only settlements close to the source and that

Table 8 County distribution of grouped axes from south-west England

Group and probable source	Avon	Berkshire	Cornwall	Devon	Dorset	Gloucestershire	Somerset	Wiltshire	Jersey	Total
Cornwall										
I	—	7	38	5	20	6	10	24	—	110
Ia	—	—	4	1	1	—	3	8	—	17
II	—	—	—	1	—	—	—	—	—	1
IIa	—	—	2	1	1	1	—	1	—	6
III	—	—	2	—	2	1	—	5	—	10
IIIa	—	—	—	—	1	—	—	2	—	3
IV	—	1	8	10	4	—	5	—	—	31
IVa	—	—	—	7	6	—	2	—	—	15
XVI	—	2	36	9	4	1	5	4	—	61
XVII	—	—	3	4	4	—	—	—	—	11
XIX	—	—	5	1	—	—	—	2	—	8
Lake District										
VI	—	6	3	3	6	20	5	18	—	61
XI	—	—	—	—	—	—	—	3	—	3
XV	—	—	—	—	—	—	1	—	—	1
Midlands										
XX	—	1	—	—	—	1	1	2	—	5
Wales										
VII	—	2	2	—	3	7	6	14	—	34
VIII	—	—	—	1	1	2	—	7	—	11
XIII	—	—	—	—	1	—	—	1	—	2
NE England										
XVIII	—	1	—	—	—	—	—	2	—	3
NE Ireland										
IX	—	2	—	—	1	5	—	3	—	11
Brittany										
X	—	—	—	—	—	—	1	—	—	2
Totals	—	22	103	43	55	44	39	99	1	406

Table 9 County distribution of ungrouped axes¹ from south-west England

Rock	Avon	Berkshire	Cornwall	Devon	Dorset	Gloucestershire	Somerset	Wiltshire	Jersey	Total
Tuff and ash	2	2	7	6	7	11	4	6	—	45
Dolerite	—	2	9	7	2	1	6	5	5	37
Rhyolite	—	1	1	—	—	3	—	1	—	6
Greenstone and epidiorite	—	3	68	35	26	11	19	37	7	206
Altered gabbro	—	1	3	2	2	—	—	1	—	9
Spotted slate	—	—	5	1	2	2	1	1	1	13
Other slates	—	—	4	2	—	4	2	3	—	15
Shale	—	1	1	—	3	1	1	—	—	7
Quartzite	—	—	1	1	2	1	4	4	—	13
Sandstone	—	—	7	3	4	2	6	9	—	31
Chert	—	—	—	2	2	—	2	—	—	6
Others (less than six axes each)	—	3	17	7	10	14	6	12	—	69
Totals	2	13	123	66	60	50	51	79	13	457

¹Except jade (see Table 5)

the wider dispersal might reflect a subsequent expansive phase of production. Now it appears that the complex distribution pattern demonstrated by Cummins (1979, fig 7; 1980, fig 1) may attest to relationships extending throughout the greater part of the millennium.

Sixteen other stone axes from the main part of the complex comprise part of a second Group I axe, two of Group XVI, one each of Groups IV, VI and VIII, one of ungrouped tuff (perhaps from Wales or the area of Charnwood Forest), one of siltstone, at least six of altered igneous and metamorphic rocks (presumably from Cornwall) and, most notably, two of jade. The rare nephrite axe (DO 93) appears to be the only example from the British Isles with known associations, and the jadeite axe (DO 135) is one of the very few from datable contexts. Although both were surface finds, they had probably been ploughed out from features within the enclosure. In contrast, extensive excavation of the smaller contemporary enclosure on the Stepleton spur of Hambledon Hill produced just one flake of greenstone, although a nearly complete axe made of an amphibole rock (DO 160) was subsequently discovered in plough-soil in the immediate vicinity (but also see Addendum DO 162).

The assemblage of stone axes from Carn Brea is of special interest because of its exceptionally large size and geographical location. The settlement is situated on a granite outcrop some 3 km distant from the town of Camborne and thus very close to the source of Group XVI rock, around 20 km and 35 km from the sources of Groups I and XVII respectively, and 70 km from the source of Group IV. Radiocarbon dates imply that the wall enclosing the settlement had been built some time before c 3000 bc and that occupation may have continued until c 2600 bc (Mercer 1983, 63). Although the absence of deep stratigraphy precludes finer phasing of the finds, there is no reason to doubt that all were in use during this period. Between 38 and 45 separate stone axes have been identified, most of them represented by fragments. In the following summary fragments have been counted as whole axes when there seems to be no likelihood of duplication. For Group XVI, where this possibility does exist, minimum and potential maximum numbers are given.

Petrological attributions are: Group I (4 axes), Group IV (2 axes), Group XVI (11/18 axes), Group XVII (2 axes), greenstone (15 axes), tuff (2 axes), and sandstone (2 axes). In addition there are at least six polished flint axes. Details of other items, including sundry weathered pieces and rock fragments not recognizably derived from axes, will be found in Mercer 1983, 153-60.

Three portable axe-polishers (two made of quartz porphyry and one of Group XVI rock, possibly a reused axe) provide the clearest indication that axes were finished or renovated on the site. Although two pre-1970 finds (CO 166, Group I; CO 111, Group XVI) were originally published as axe roughouts (Evens *et al* 1962, 256-7), it now seems possible, in view of the partly decomposed condition of some of the specimens from the 1970-3 excavations, that the rough appearance may be due to weathering. The recent finds do, however, include a piece in fresh condition that looks like the butt of a greenstone axe with unreduced flake scars. It is therefore conceivable that a proportion of the small rock fragments (mainly ungrouped greenstones) could be by-products of axe manufacture.

Perhaps the most striking aspect of this assemblage is its petrological diversity. While axes of the local Group XVI rock are well represented, they are outnumbered in aggregate by examples made of greenstones from other outcrops, of the Cornish Groups I, IV and XVII, and of sandstone, tuff and flint. At least one of the tuff axes (CO 253) appears to be of Lake District origin; the rock is closely related to that of Group VI. Origins somewhere east of Devon are indicated for the flint axes (Mercer 1983, 138).

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3 The petrological identification of stone implements from south-east England

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Abstract

Stone axes, adzes, shaft-hole implements, and a number of cupped pebbles, hones and rubbers from the four south-eastern counties of Kent, Sussex, Surrey and Hampshire are catalogued, and the majority have been identified petrographically. The south-east of England is characterized geologically by the complete absence of igneous and metamorphic rocks, and is more distant from the known factory sites from which grouped implements emanated than any other part of Britain. It is not surprising, therefore, that lower proportions of implements in the south-east can be assigned to known petrological groups than other areas of England, with 38% in Hampshire, 25% in Kent, 26% in Surrey and only 18% in Sussex. Although most of the known groups are represented, those which have been attributed to a Cornish or south-western source are by far the most numerous. This tendency is even more marked if those ungrouped implements which are likely to have a south-west origin are included, although there is a noteworthy decrease eastwards across the south-east area in the numbers of such implements. Possible reasons for the special distribution pattern of grouped and ungrouped implements in the south-east are discussed in both geological and archaeological terms.

Introduction

The petrological examination of stone implements from south-east England has a history that extends back many years. Much of the earlier work resulted from the establishment, in 1936, of the Sub-Committee of the South-Western Group of Museums on the petrological identification of stone axes, and a number of implements from the south-east were sectioned as part of their investigations (Evens *et al* 1962).

It was not until the early 1960s, however, with the formation of the South-Eastern Implement Petrology Committee, that any systematic study was attempted in the south-east. This resulted in the compilation of card indexes on a county basis for Hampshire (including the Isle of Wight), Kent, Surrey and Sussex, and the publication, in the case of Sussex, of a list of petrological identifications (Evans 1968). In 1974 this work was given a fresh impetus by a reconstructed CBA Implement Petrology Committee, and it is the work of the south-eastern group of this Committee that is described in this report.

For the purposes of this survey the boundaries of the counties are the 'old' (pre- 1974) boundaries, as given in the south sheet of the *Watsonian Vice-Counties of Great Britain* (The Ray Society 1969, Publication 146). Thus the borders of Kent and Surrey are considered to run northward to the Thames to include part of what is now Greater London, that part of Berkshire now south of the Thames is placed in Surrey, and the Isle of Wight is included in Hampshire, as is Bournemouth. The boundaries of these counties are shown in Fig 3. Implements from the Thames, other than those with a specific Kent or Surrey provenance, are considered to be in Middlesex, and as such are excluded from this paper.

The county lists are reproduced in full. The county number system takes no account of local government reform, and continues on the basis of the 'old' counties, for the sake of consistency. Where previous workers have included extraneous material, for example artefacts of flint or of ethnographic origin, this is indicated but not omitted. The numbering of the implements has not been adjusted to take account of any errors since some county lists have been published, at least in part, and certain implements, together with their county numbers, have already appeared in print. Where individual implements are quoted in the text the following prefixes are used: Hamp (Hampshire) Kent (Kent), Sy (Surrey), Sx (Sussex).

Wherever possible a four or six-figure National Grid Reference is given, but as many implements are located only as accurately as the nearest village or town, this should be taken as no more than an indication of the findspot. The provenances given are those of the site names, and these are not necessarily those of the parishes in which the sites lie. A set of completed record cards will be held for each county, as follows: Hampshire: Hampshire Museums Service; Kent: Maidstone Museum, Maidstone, Kent; Surrey: Surrey Archaeological Society Library, Guildford Museum, Guildford, Surrey; Sussex: Sussex Archaeological Society Library, Barbican House, High Street, Lewes, East Sussex.

One immediate problem has been to establish a uniform terminology for the archaeological material, since the information has been compiled by several workers, and many implements have been described in a highly subjective manner. While we have attempted to describe each artefact objectively, it has not proved possible to re-examine all the artefacts concerned, and some of our attributions have been made on the basis of drawings only. Thus some allowance must be made for possible errors,

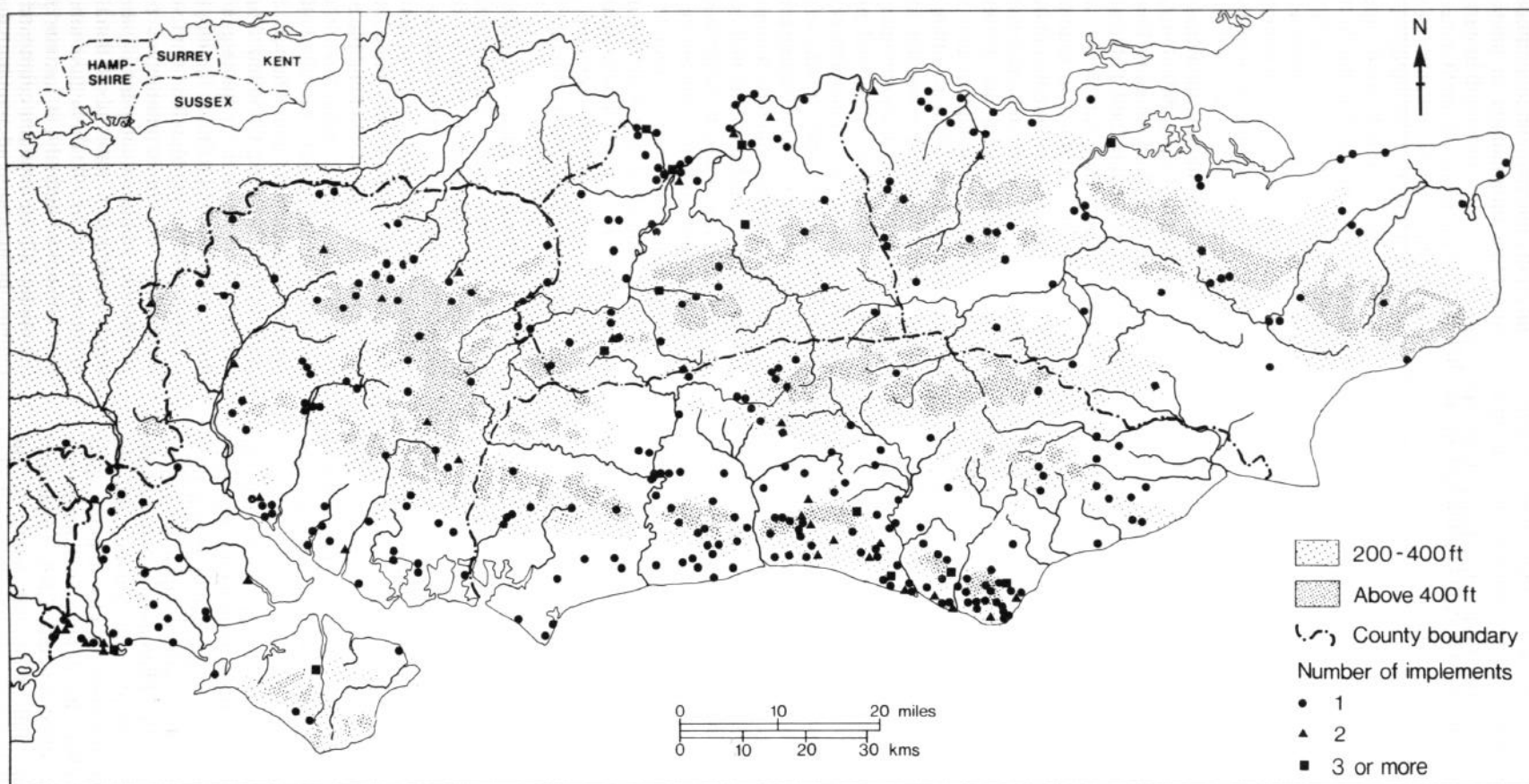


Fig 3 Location of implement finds in south-east England

and in particular for some overlap between such groups as maceheads, pebble-hammers and shaft-hole adzes. Notwithstanding these difficulties, the following categories of implement have been distinguished.

Axes

This group includes all those implements which are obvious axes. It also includes implements which may possibly have been adzes, but whose slightly asymmetric form is more likely to have been determined by the shape of the source material itself.

Adzes

This group includes only those implements which appear to have been deliberately designed for this purpose.

Flake

Only one example is known, and this could well be the result of refaking a broken or damaged axe.

Implements with shaft-holes

Whenever possible these have been classified according to the system of Roe (1979) and are divided into battle-axes, axe-hammers, maceheads, shaft-hole adzes and pebble-hammers (often described elsewhere as pebble-maceheads, hourglass pebbles, etc).

Other items

These include cupped pebbles, pestles, hones, rubbers, etc.

In the Fourth Report published by the South-Western Group (Evens *et al* 1962) 112 implements from the south-east area were included, namely four from Kent, four from Surrey, 22 from Sussex and 82 from Hampshire. Apart from this, no comprehensive account of stone implements from south-east England and their petrology has been published, although a report on the Surrey material has appeared (Field & Woolley 1984). Of these 112 thin sections, 94 have been made available to the present authors, and other thin sections have also been collected from other sources. These two groups of thin sections, together with the numerous sections made during the course of the present work, are all now housed in the British Museum (Natural History) where they may be consulted. We are also grateful for the loan of a number of sections from the British Geological Survey. Of these it has proved possible to match sixteen with implements whose details are known from other sources, and a further five sections made from Surrey implements have been assigned Surrey county numbers on the strength of the sections and BGS records alone.

Apart from identifications based on the sections referred to above, some petrographical names given in the list are taken either from South-Western Group reports which are based on sections no longer available, or from other sources for which again the sections can no longer be traced. A few rock names given in the list are based solely on macroscopic examination, but these have not been included in the statistics presented in Tables 10-15, with the exception of the group designated as 'quartzite/sandstone'. These, though not sectioned, can undoubtedly be categorized in this way; they are discussed

in more detail later. Rock names have not been ascribed to a few of the implements detailed in the list either because they cannot now be traced - a common situation with those in private hands - or because permission for sectioning has been withheld.

Geological background

The geological structure of the south-east of England is dominated by the ESE-WNW trending Wealden anticline, which is bounded to the north by the syncline of the London Basin. In the east and south-east the Wealden anticline is truncated by the coast, but the corresponding structure can be recognized in France in the Bas Boulonnais. The Wealden anticline plunges westwards beneath the Hampshire Basin and the levelling out of the strata accounts for the extensive outcrop of Chalk in the area of Salisbury Plain.

The counties of Kent, Surrey and Sussex comprise Cretaceous and Tertiary strata with overlying unconsolidated Quaternary deposits. In Hampshire as well as these formations Jurassic rocks also occur. Topographically the area is dominated by the Chalk outcrops of the North and South Downs, and the relatively rough sandstones which constitute part of the Lower Greensand and Wealden formations. The existence of the well drained Chalk uplands seems to have been a significant factor in the distribution and development of early man in the area.

From the point of view of implement provenance the south-east area is notable for the complete absence of igneous and metamorphic rocks. It also lay south of even the most extensive advance of the ice during the Quaternary Ice Age, so that glacial erratics were not available for implement manufacture. However in the area

Table 10 South-east area: grouped implements

Group	Kent	Surrey	Sussex	Hampshire	Total
I	8	9	8	17	42
Ia	—	1	—	—	1
IIa	—	—	1	1	2
III	—	—	—	3	3
IIIa	—	—	1	1	2
IV	—	2	1	1	4
VI	4	4	6	8	22
VII	1	2	5	5	13
VIII	—	—	—	1	1
IX	2	3	2	1	8
X	—	—	—	2	2
XII	—	1	—	1	2
XIII	—	1	3	2	6
XIV	—	—	—	1	1
XVI	1	—	—	1	2
XVII	—	—	—	1	1
XVIII	1	—	—	2	3
XIX	—	—	2	2	4
XX	—	1	3	1	5
Total	17	24	32	51	124

of Selsey Bill in Sussex, boulders, mostly of igneous and metamorphic rocks, form a horizon which is considered to have been deposited from an ice sheet occupying approximately the position of the English Channel. It is possible that these erratics could have been used by Neolithic man for the manufacture of tools.

It is perhaps of some archaeological significance that the sea-level (relative to the land) has risen somewhat since Neolithic times. The rise has probably been of the order of 3-6 m, but an accurate estimate is almost impossible to determine, as discussed by Akeroyd (1971), and it probably varied around the coast. However, the rise has

certainly been enough to inundate many archaeological sites, and shallow sea areas such as the Goodwin Sands and the north Kent coast were almost certainly above sea-level in Neolithic times. The geography of the Lower Thames would also have been significantly changed, and much of this area in Neolithic times would have been marshland dissected by creeks, with a tidal limit further seaward than at the present time. Along the south coast too there would have been changes. Much of what is now marshland (the Chislet, Minster and Romney marshes in Kent, Pevensey marsh and Chichester Harbour area in Sussex) as well as the lower reaches of some of the river valleys would have been open to the sea, at least at high tide. In other areas erosion has taken its toll, and the prehistoric coastline would have been some distance to the south of its present position.

Table 11 South-east area: ungrouped implements

Rock type	Kent	Surrey	Sussex	Hampshire	SE area
<i>Sedimentary rocks</i>					
Quartzite	2	6	16	5	29
Sandstone	9	4	46	9	68
Quartzite/ sandstone	9	13	11	7	40
Greywacke	4	9	8	5	26
Arkose	1	—	—	—	1
Mudstone/shale	—	—	1	2	3
Limestone	1	1	—	2	4
Ironstone	—	—	2	—	2
Total	26	33	84	30	173
Tuff	1	5	4	7	17
<i>Igneous rocks</i>					
Dolerite	6	6	7	9	28
Basalt	1	3	1	—	5
Gabbro	—	1	1	2	4
Diorite	5	1	7	5	18
Granodiorite	1	1	—	—	2
Rhyolite/ microgranite	—	—	1	1	2
Lamprophyre	—	1	1	1	3
Pyroxenite	1	—	—	—	1
Porphyry	—	1	—	—	1
Serpentinite	—	—	1	—	1
Trachyte	—	2	—	—	2
Felsite	—	—	1	—	1
Total	14	16	20	—	68
<i>Metamorphic rocks</i>					
Epidiorite	4	9	23	13	49
Amphibolite	2	2	—	2	6
Hornblende schist	1	—	—	2	3
Nephrite	1	1	—	1	3
Jadeite/ pyroxenite	1	2	—	4	7
Schist	—	—	6	2	8
Hornfels	2	—	2	2	6
Slate/phyllite/ meta-siltstone/ meta-mudstone	—	1	6	3	10
Meta-porphry	—	—	—	1	1
Meta-basalt	—	—	1	—	1
Total	11	15	38	30	94
Grand total	52	69	146	85	352

Grouped implements (Table 10)

Group I

Forty-two implements have been assigned to this group (Hamp 9, 10, 11, 13, 23, 29, 30, 39, 64, 70, 71, 82, 89, 106, 121, 129, 135; Kent 14, 16, 37, 51, 56, 59, 61, 62; Sy 26, 29, 36, 41, 44, 48, 55, 64, 75; Sx 5, 9, 24, 30, 77, 101, 116, 168), making it the most prolific group in the south-eastern area. In general the implements are randomly distributed, though decreasing from west to east; examples are not known from east Kent and west Sussex. While such a decrease might well be expected further from the source material, the absence of Group I implements from west Sussex is not easy to explain.

All the implements from this group are axes; they vary considerably both in typology and in size. This probably reflects the size and shape of the raw material used as much as any other factor. While individual axes might be matched one with another, there is little to suggest a distinctive product or the production of specialized tool types. Rather there seems to be an optimum width for the cutting edge of an axe, above or below which the implement was probably not efficient for general use, while the length was of lesser importance. Similar comments apply to the majority of axes from other groups also.

Nevertheless the axes have several features in common, which may be matched with other Group I axes from elsewhere in the country. For example, all (with the exception of Kent 59, which may have been reworked) have a rounded butt and an oval section, and there are three examples (Hamp 70; Kent 16; Sy 44) showing the slightly flared blade noted on a number of other axes from the south-west (Stone & Wallis 1951, 103).

One axe (Sy 64) is said to have been found during excavations at Weston Wood, Albury, though the exact circumstances of its discovery remain obscure.

Group Ia

One axe only (Sy 54) is attributed to this group.

Group IIa

The only two representatives of this group in the south-east are two axes (Hamp 14; Sx 11) identified by Stone and Wallis (1951). No subsequent additions have been made.

Table 12 Comparison of proportions of grouped implements and of Groups I-IV and VI between the south-east and other areas of England

Area	No of implements sectioned	% falling into Groups	Group VI		Groups I to IV		Sources of data
			% of grouped implements	% of total implements	% of grouped implements	% of total implements	
SE England	476*	26	18	5	42	12	This paper
SW England	1259	34	13	4	42	14	Evens et al 1972
East Anglia	410	55	36	20	34	13	Clough & Green 1972
Yorkshire	350	55	56	31	11	6	Keen & Radley 1971
Lincolnshire, Nottinghamshire and Rutland	422	72	65	47	5	4	Cummins & Moore 1973

* A few identifications are based on macroscopic examination only, and the number includes 40 quartzites/sandstones which have also not been sectioned

Groups III and IIIa

Of the three implements assigned to Group III, two (Hamp 8 and 17) were so identified by Stone and Wallis (1951), who also attributed two others (Hamp 27 and Sx 10) to Group IIIa. The third Group III specimen (Hamp 107) was identified during the present survey. All five sections are available to the present authors, together with a 'type' Group III section (Cornwall 106; Stone & Wallis, 1951, no 677), and they illustrate some variability in petrological interpretation. Hamp 8 is sufficiently different from the type section to raise doubts as to whether it should have been assigned to Group III. Clearly the petrologist who originally erected the group and assigned this implement to it would have had further examples to hand, and his interpretation must take precedence. However there are numerous epidiorite bodies in the south-west of England whose rocks are presumably not dissimilar, so that it is difficult to gauge the significance of textural variants in terms of provenance.

Table 13 Proportions of grouped and ungrouped implements in south-east England

	Kent	Surrey	Sussex	Hampshire	SE area
Total petrographically identified	69	93	178	136	476
Total grouped	17	24	32	51	124
Total ungrouped	52	69	146	85	352
% grouped	25%	26%	18%	38%	26%
% ungrouped	75%	74%	82%	62%	74%

Group IV

Four axes, all from the western portion of the area (Hamp 128; Sy 63,70; Sx 161) are assigned to this group.

Table 14 Products of grouped rocks from south-east England

Group	Axes	Adzes	Shaft-hole adzes	Barrel-axes	Axe hammers	Maceheads	Pestles	Wedges	Totals
I	42	—	—	—	—	—	—	—	42
Ia	1	—	—	—	—	—	—	—	1
IIa	2	—	—	—	—	—	—	—	2
III	3	—	—	—	—	—	—	—	3
IIIa	2	—	—	—	—	—	—	—	2
IV	4	—	—	—	—	—	—	—	4
VI	20	1	—	—	—	—	—	—	21
VI (near)	—	—	—	—	—	—	1	—	1
VII	13	—	—	—	—	—	—	—	13
VIII	1	—	—	—	—	—	—	—	1
IX	8	—	—	—	—	—	—	—	8
X	2	—	—	—	—	—	—	—	2
XII	—	—	—	2	—	—	—	—	2
XIII	4	—	1	1	—	—	—	—	6
XIV	—	—	—	—	1	—	—	—	1
XVI	2	—	—	—	—	—	—	—	2
XVII	1	—	—	—	—	—	—	—	1
XVIII	2	—	1	—	—	—	—	—	3
XIX	2	—	1	—	—	1	—	—	4
XX	2	1	—	—	—	—	1	1	5
Totals	111	2	3	3	1	1	2	1	124

Table 15 Products of ungrouped rocks from south-east England

	Axes	Adzes	Shaft-hole adzes	Battle- axes	Axe- hammers	Maceheads	Pebble- hammers	Cupped pebbles	Hones/ rubbers	Miscel- laneous	Totals
<i>Sedimentary rocks</i>											
Quartzite	1	-	1	1	-	-	22	2	1	1 ¹	29
Sandstone	10	-	9	3	-	2	18	5	19	2 ²	68
Quartzite/sandstone	-	-	-	-	-	-	37	3	-	-	40 ³
Greywacke	10	-	6	1	3	-	4	-	1	1 ⁴	26
Arkose	1	-	-	-	-	-	-	1	-	-	1
Mudstone/shale	3	-	-	-	-	-	-	-	-	-	3
Limestone	4	-	-	-	-	-	-	-	-	-	4
Ironstone	2	-	-	-	-	-	-	-	-	-	2
Tuff	11	4	-	-	-	1	-	-	-	1 ⁵	17
<i>Igneous rocks</i>											
Dolerite	11	-	5	6	2	1	-	-	-	3 ⁶	28
Basalt	3	1	-	-	-	1	-	-	-	-	5
Gabbro	2	-	-	-	1	-	-	-	-	1 ⁷	4
Diorite	7	1	4	2	2	1	-	-	-	1 ⁴	18
Granodiorite	1	-	1	-	-	-	-	-	-	-	2
Rhyolite	-	-	1	-	-	-	-	-	1	-	2
microgranite	-	-	-	-	-	-	-	-	-	-	-
Lamprophyre	-	-	1	-	1	-	1	-	-	-	3
Pyroxenite	1	-	-	-	-	-	-	-	-	-	1
Porphyry	-	-	-	-	-	1	-	-	-	-	1
Serpentinite	1	-	-	-	-	-	-	-	-	-	1
Trachyte	-	-	-	-	1	-	-	-	-	1 ⁸	2
Felsite	-	-	1	-	-	-	-	-	-	-	1
<i>Metamorphic rocks</i>											
Epidiorite	42	-	2	3	1	-	1	-	-	-	49
Amphibolite	6	-	-	-	-	-	-	-	-	-	6
Hornblende schist	-	-	1	1	-	-	-	-	-	1 ⁹	3
Nephrite	3	-	-	-	-	-	-	-	-	-	3
Judeite/pyroxenite	7	-	-	-	-	-	-	-	-	-	7
Schist	5	-	-	1	-	-	-	-	2	-	8
Hornfels	4	-	2	-	-	-	-	-	-	-	6
Slate/phyllite/ meta-siltstone/ meta-mudstone	8	-	-	-	-	-	-	-	2	-	10
Meta-porphry	1	-	-	-	-	-	-	-	-	-	1
Meta-basalt	1	-	-	-	-	-	-	-	-	-	1
Totals	145	6	34	18	11	7	83	10	26	12	352

¹ Pebble hammer/shaft-hole adze² Macehead/pebble hammer and pestle³ Not sectioned: based on macroscopic examination⁴ Macehead/pebble hammer⁵ Pestle⁶ Macehead/shaft-hole adze?; pebble hammer/macehead; flake⁷ Grooved ball⁸ Socketed axe mould⁹ Macehead/shaft-hole adze

Group VI

This is the second most abundant group represented in the south-east, with 21 implements (Hamp 2, 22, 25, 42, 55, 91, 98, 130; Kent 44, 46, 49, 57; Sy 2,4, 56, 83; Sx 54, 133, 155, 158, 179) and one less certain attribution (Sx 48).

Although nowhere holding a dominant position in the south-east area, the implements are most abundant in Hampshire and, as can be seen on the frequency distribution map of Cummins (1979, fig 8), appear to have been traded down the central part of England, hardly reaching the extreme south-east or south-west corners.

With one exception, all the implements are clearly axes; they occur in a wide variety of sizes, and generally show a high standard of finish. A characteristic of this group is the number of axes (some 64% of those that could be

examined) with facets along their lateral edges, a feature commonly seen on flint axes.

One implement (Hamp 55) has been identified as an adze, though it is possible that it could equally well be an axe whose cutting edge has been placed asymmetrically.

One axe (Hamp 2) was found among a dense concentration of flintworking debris.

Group VII

This is the third most abundant group, with thirteen implements assigned to it (Hamp 20,31,35,61,63; Kent 18; Sy 74, 88; Sx 57, 59, 79, 105, 141). As might be expected, the distribution pattern decreases in an easterly direction, with most implements coming from sites either on or close to the coast or major rivers. It is interesting that five of the known implements come from east Sussex, of which four lie quite close to one another.

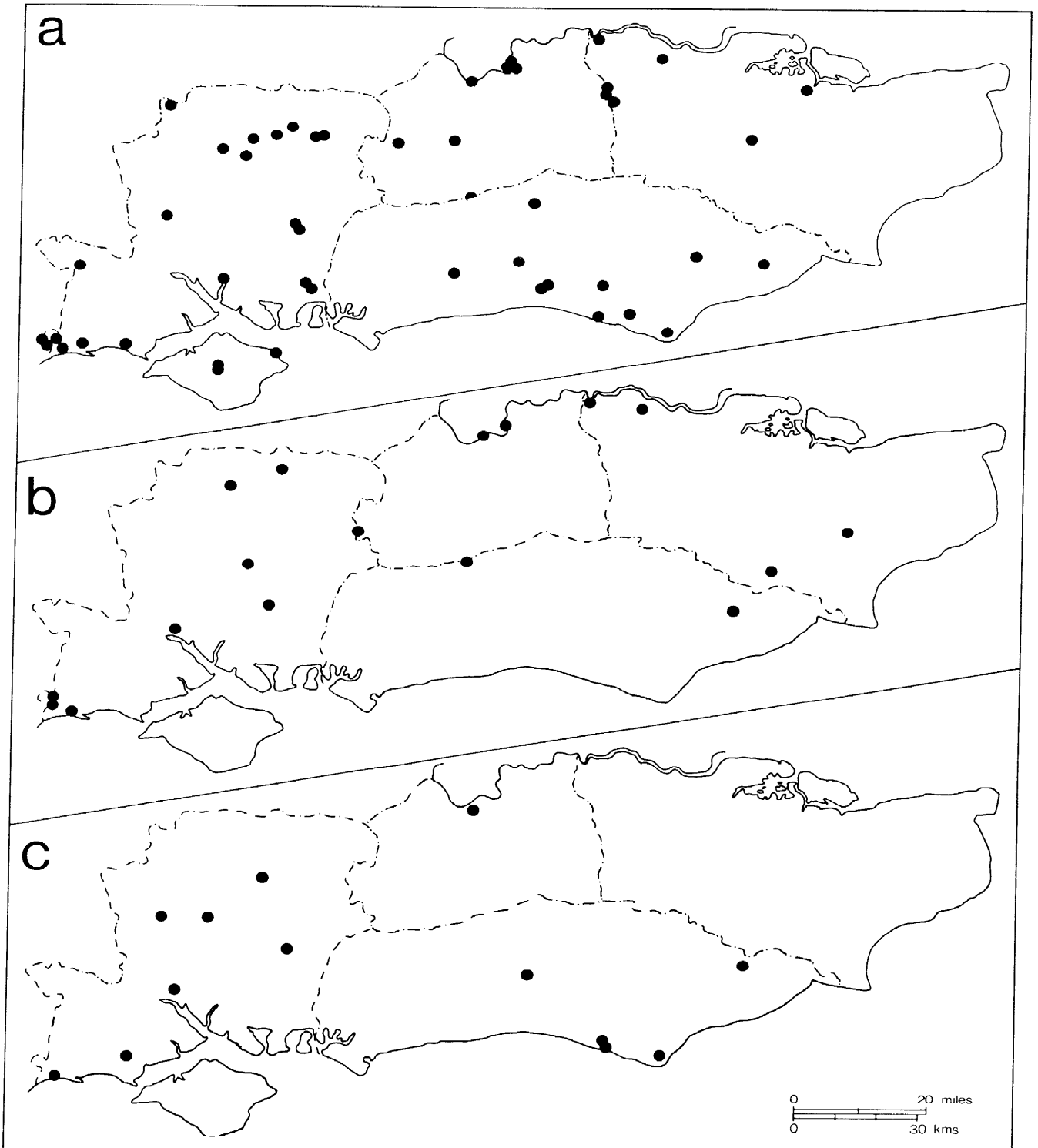


Fig 4 Distribution of a) Comish Groups (I, Ia, II, IIa, III, IIIa, IV, V, XVI, XIX); b) Lake District Groups (VI, XV); c) Welsh Groups (VII, VIII, XII, XIII) in south-east England

All the implements are axes, several with cutting edges relatively broad in relation to their length. On some examples (eg Hamp 61, Sx 59) the polishing has been concentrated in the area of the cutting edge with much of the butt remaining in its original, relatively crudely flaked state.

Group VIII

Only one axe body fragment (Hamp 3) is known from this group, and is from the northern part of Hampshire.

Group IX

Eight small and crudely made axes (Hamp 105; Kent 1, 32; Sy 11,13,10; Sx 87,89) have been identified from this group, a surprisingly high number in view of the considerable distance from the factory sites in County Antrim. It is also interesting to note just how widely scattered are these implements.

Group X

Only two well made axes, elliptical in section, (Hamp 26, 49) are known from this group, and both were first identified by the South-Western Group (Evens *et al* 1962). Their provenance close to the south coast was pointed out as being logical, since this group derives from Brittany.

Group XII

Two battle-axes (Hamp 51; Sy 9) are attributed to this group.

Group XIII

Six implements can be assigned to this group. Four are axes of widely differing size and shape (Hamp 41,47; Sy 34; Sx 6). One is a battle-axe (Sx 35), and the last (Sx 178) is a shaft-hole adze. The typology of these widely scattered implements is so diverse that it is unlikely that they emanate from a single source.

Group XIV

This relatively rare group is represented only by one axe-hammer (Hamp 94).

Group XVI

Two axes (Hamp 40; Kent 9) are known to belong to this group.

Group XVII

Only one axe fragment (Hamp 112) has been attributed to this group.

Group XVIII

Two of the three implements known from this group (Hamp 36, 48) are axes, with rounded butts and rather thick elliptical sections. The other (Kent 23) is a shaft-hole adze, well finished and with a noticeably cylindrical perforation.

Group XIX

Two of the implements (Hamp 6; Sx 85) are axes, both elliptical in section but of somewhat different shape, one (Hamp 97) a mace-head and the other (Sx 94) a shaft-hole adze.

Group XX

Two of the five known implements (Sx 25, 26) are axes, one (Sx 69) an adze, one (Hamp 76) a wedge - the only example of this type of implement so far known from the south-eastern area, and the remaining implement (Sx 1) is a pestle. All have been found on or near the coast.

Ungrouped implements (Table 11)

Sedimentary rocks

Details of rock types represented among the ungrouped implements are given in Table 11. It is noteworthy that not only are ungrouped implements dominant in the south-east but a high proportion are of sedimentary rocks, particularly quartzites and sandstones. Some difficulty has been found in assigning some sections to one or other of these categories. 'Quartzite' is a term generally used by petrologists for a metamorphic quartz rock, but it may also be applied to a quartz sandstone in which grains are cemented by silica. Traditionally such rocks were identified by breaking across rather than around the grains. Unmetamorphosed quartzites have sometimes been called orthoquartzites but Pettijohn (1975, 230-1) says that recent literature indicates its gradual replacement by the term quartz arenite. In the present context the term quartzite has been used for those rocks composed of at least 98% quartz (as estimated by eye, not point counted). They grade continuously into rocks containing feldspar and a range of heavy minerals, particularly tourmaline, and all are considered to have originated in the south-east area, probably in the Lower Greensand, which would seem to be confirmed by the greater or lesser amounts of glauconite found in many of them.

Although one implement (Kent 20) has been identified as 'Ightham' stone, which occurs in the Folkestone Beds of the Sevenoaks vicinity, another as possibly Sarsen (Hamp 113), and others (Sx 46 and 151) as probably 'Carstone' (a hard ferruginous sandstone found as doggers and veins in the Folkestone Beds) many sandstones and quartzites have not yet been identified with particular horizons, although it is probable that many of them could be with careful work.

Perhaps the most characteristic feature of the south-eastern area implements is the abundance of pebble-hammers, shaft-hole adzes, and cupped pebbles (some 36% of all ungrouped implements examined), and nearly all manufactured from quartzite or sandstone. These implements seem not to have been made from rock quarried in particular places, but rather from pebbles or small boulders, such as can be found at the present day scattered over many parts of the Chalk downland and the fringes of the Weald. This in fact accounts for the distinctive distribution pattern shown by these implements (Fig 5), clustering as they do in just those areas where the raw material for their manufacture would have been most readily available.

The distribution map also shows two particular concentrations of implements, one on the Tertiary deposits on the Weald in south-west Surrey, east Hampshire and north-west Sussex, and the other on the Chalk downland of east Sussex, to the west of Eastbourne.

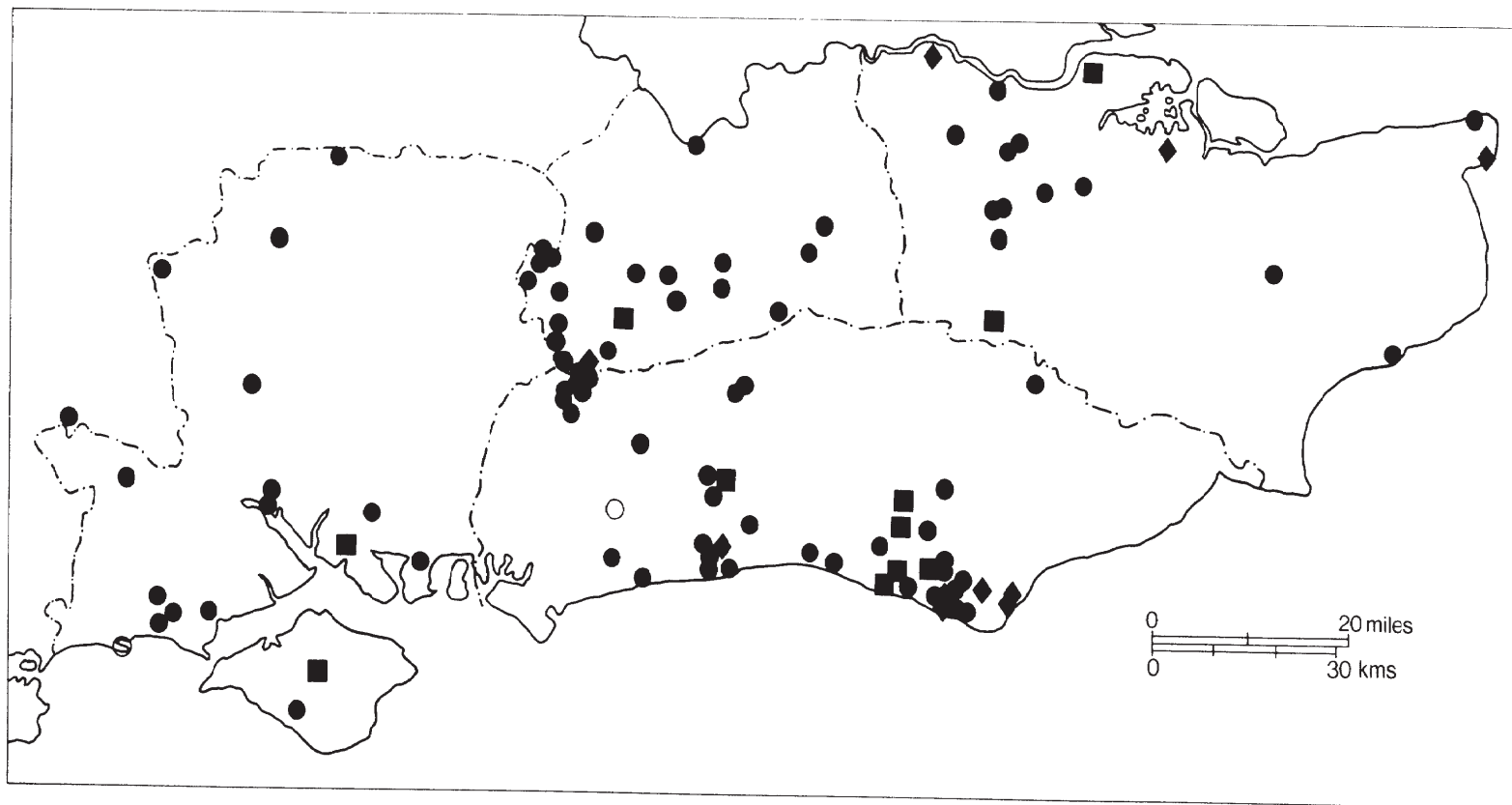


Fig 5 Distribution of pebble-hammers (solid circles), shaft-hole adzes (squares) and cupped pebbles (diamonds) made of quartzite/sandstone in south-east England; two implements of uncertain attribution are represented by open circles

Both are areas where flint collectors and archaeologists alike have been particularly active, though not to such an extent as to bring into question the validity of this pattern. In order to explain it, however, it is necessary to look at the circumstances in which these implements have been found. While it is true that the majority of the implements examined in the study area are casual finds, this particular group is exceptional, and a list of known archaeological associations is given below.

No.	Type of implement	Circumstances of discovery
Hamp 142	Pebble-hammer	Found in submerged peat of late Boreal date
Kent 63	Pebble-hammer	Found in sand beneath peat, and said to be of Mesolithic date
Kent 69	Cupped pebble	Found during the excavation of a Mesolithic site
Sy 24	Pebble-hammer	Found among Mesolithic flint work
Sy 99	Pebble-hammer	Found during the excavation of a Mesolithic 'pit-dwelling'
Sy 100	Pebble-hammer	Found during the excavation of a Mesolithic flintworking site
Sx 70	Pebble-hammer	Found in association with Mesolithic artefacts
Sx 134	Shaft-hole adze	Found in association with a bronze hoard and gold ring
Sx 189-93	Pebble-hammers	Surface finds said to have been found among concentrations of Mesolithic flintwork.
Sx 194	Cupped pebble	

From this it can be seen that a surprisingly high proportion of these artefacts has been found either in direct or indirect association with Mesolithic material, and similar associations are known from other sites outside the south-east, mostly in a Mesolithic context but not exclusively so (Roe 1979, 36). However the majority of Mesolithic associations seem to be in the south.

Certainly in south-west Surrey, east Hampshire, and south-west Sussex Mesolithic sites are particularly numerous (Rankine 1956), and a corresponding concentration of pebble-hammers might be expected. The situation in east Sussex is less easy to explain since, with the exception of a number of sites in the Seaford area (Clark 1932), few Mesolithic sites have so far been discovered on the chalk downs themselves.

Most of the remaining implements of sandstone and quartzite are merely natural, or roughly shaped pieces (eg Sx 8, 111 etc), used for a variety of rubbing and sharpening purposes, throughout the prehistoric - and no doubt more recent - periods.

Among those implements that are identifiable as prehistoric are axes (eg Kent 20; Sx 98, 100, 167 etc) and battle-axes (eg Sy 18; Sx 151 etc), at least some of which are likely to be of local manufacture.

Twenty-six greywacke implements have been identified, implying a provenance in the west or north of Britain. It is possible that a few of these implements would have been placed in one or other of the greywacke groups (XV and XIX) by other petrologists, but they do not exactly match the 'type' sections available to the authors. In some respects greywacke is an unsatisfactory rock type for a group because of the variability, particularly of grain size, through a greywacke unit, which may be such that

rock specimens collected only a few metres, or even centimetres, apart may be texturally very different.

For the clear designation of a greywacke group, therefore, the petrologist needs a set of slides representative of the textural range which was acceptable to the petrologist who first defined the group, and even then it may be debatable whether all of them have a single provenance. The fact that typologically the range of the implements themselves is very varied, including axes, shaft-hole adzes, a battle-axe, axe-hammers and pebble-hammers, would lend support to this view.

Other sedimentary rocks are of relatively minor importance. They are of interest more because of their eccentricity than their utility as source materials for axes. The limestones in particular cannot have made satisfactory working tools; for instance, one axe (Sy 40) is a highly fossiliferous rock packed with foraminifera, bryozoans and bivalvia fragments. This lack of utility is also probably true of some of the implements of sandstone, mudstone and shale, which were probably also made for ceremonial or 'show' purposes. Similar implements are known elsewhere in the British Neolithic, perhaps the best known examples being the Chalk axes from Stonehenge and Woodhenge.

Igneous rocks

Dolerites are the most abundant of the ungrouped igneous rocks. Although some may derive from the Whin Sill, provenances in the south-west and north-west of England, Wales and Scotland are also likely. A variety of dolerite implements are found, including axes, shaft-hole adzes, battle-axes, axe-hammers, and a macehead, all showing considerable variation within the same category. Of some interest are two axes (Sx 74, 75) which were found together, and undoubtedly originate from the same workshop, if not from the hands of the same maker. Both are characterized by the fact that the polishing extends only over the cutting edge and part of the butt, so that many of the original flake scars can be seen. These axes cannot, however, be matched precisely with any other of the dolerite axes from the south-east area.

One flake of dolerite (Kent 2) has been found, which could perhaps have been the result of reworking a broken or damaged implement.

Diorites, the second most abundant category, are very varied and include hornblende and pyroxene-bearing types; they usually contain quartz. The diorites grade towards gabbros and epidiorites on the one hand and granophyres and granites on the other. They do not appear to match the diorites of Charnwood Forest or the Malvern Hills, and so probably derive from the south-west. All the eighteen implements assigned to this rock are typologically very different, representing a wide variety of forms.

Of the five basalt implements three contain olivine, one of which (Sy 68) includes large, fresh olivine phenocrysts. The most likely source of the olivine basalts, particularly those in which the olivine is fresh, is the Carboniferous basalts of the Midland Valley of Scotland, although one implement (Sy 68), an axe with a markedly rectangular section, is suggestive of a Scandinavian origin. A number of very similar axes were encountered during the study (Sy 39, 52, 69; Sx 10). There are several examples of flint axes

of the same general form known from the south-east, for example the axe from the Julliberries Grave long-barrow at Chilham in Kent (Jessup 1937; 1939). Perhaps future work should pay more attention to the possibility of greater contact with this particular area of Continental Europe, although an ethnographic origin for some of these implements cannot be ruled out. The olivine-free basalts could derive from a number of localities in the west and north of Britain.

Three lamprophyres are represented of which two are camptonites that undoubtedly derive from the sills in the Nuneaton area, the source of Group XIV (Shotton 1959). However they differ markedly from the type Group XIV rock in that one - a large heavy axe hammer (Sy 32) - is an olivine camptonite, the olivine being very abundant, perhaps 20% of the rock, although it is replaced by serpentine, carbonate and magnetite, while the brown amphibole often has bluish-green terminations of what is probably an alkaline amphibole. These features can be matched in sections of the Nuneaton sills in the British Museum (Natural History). The second camptonite (Sx 38) is markedly finer-grained than Group XIV. These observations indicate either that Group XIV should be widened to include all camptonites of the Nuneaton area, or that they should be assigned sub-group numbers within XIV. Only one true Group XIV implement has been identified (Hamp 94), a finely made axe-hammer.

Perhaps the most important implement of igneous rock is the well known battle-axe (Sx 32) from the Hove barrow burial in Sussex. This implement was found within an oak coffin (radiocarbon date 1239 ± 46 bc), in association with an amber cup, a perforated whetstone (Sx 41) and an ogival dagger. This group is typical of the second phase of the Wessex culture. Permission to examine these implements petrologically has not yet been granted.

Another interesting implement (Sy 78) is a Stogursey type, socketed axe mould of quartz trachyte, of which only four other examples are known to exist.

Metamorphic rocks

Over half of the ungrouped metamorphic rocks are epidiorites (Table 11), only sandstone implements being more abundant. The epidiorites strongly enforce the conclusion apparent from the grouped implements, that the south-west was a predominant source of the rock used in south-eastern implements which are not of local origin. Many of the epidiorites are not too dissimilar to Groups I and II, though not sufficiently close for inclusion in them.

Of the 49 implements listed as epidiorites 42 are axes, the majority of which show the same general characteristics of south-western axes described under Group I.

Of the half-dozen amphibolites found, four have some similarities to the epidiorites, but two grade into hornblende schists, of which three implements have been found, and these five together match very closely the Landewednack hornblende schists of the Lizard. If similar rock types occur in other areas, there is clearly a potential new petrological group here in view of the restricted provenance, although typologically the implements themselves are not very similar.

Among the schists are found quartz-muscovite-biotite schist (Hamp 58), chlorite schist (Sx 154), quartz-andalusite-mica schist (Hamp 90) and hornblende-

clinozoisite-chlorite schist (Sx 17). Slates, phyllites and other fine-grained sediments that have undergone some degree of metamorphism are represented by ten implements, of which two (Sx 148 and 152) are spotted slates. These grade into biotite-cordierite hornfels (Kent 47, Hamp 65 and 72) and biotite-cordierite-andalusite hornfels (Sx 29). The relative abundance of spotted slates and biotite-cordierite hornfels among implements of the south-west (Evens *et al* 1962) and the occurrence of such rock types in the aureoles of the south-western granites such as Dartmoor and Land's End indicate again the likelihood of a south-western England source. This is a further potential group of limited provenance.

How effective some of these implements would have been is debatable, since any considerable blow might be expected to have cleft the rock along its planes of weakness. This is just what appears to have happened with one implement (Sx 177) which, although retaining the general shape of an axe, is undoubtedly much thinner than it was originally.

The jadeite/pyroxenite and nephrite implements, of which ten are known from the south-east, are discussed by Campbell Smith (1963; 1965; 1972). A more up-to-date list is given by Jones *et al* (1977), while their distribution, typology and mineralogy are considered by Bishop *et al* (1977). The material of these implements undoubtedly has a foreign source, probably the southern Alps. As a group they represent the most highly finished and aesthetically pleasing of all the implements from the south-east area, and clearly the majority were never intended for functional purposes.

Archaeological considerations

The accompanying distribution map (Fig 3) shows all the implements from south-east England considered in this survey. It therefore includes objects which differ widely in their typology and function, age and point of origin. Further, since the information has been compiled independently in the various counties covered, it is inevitable that the policies for the selection of material to be examined have varied from county to county. For example, while 21 hones and rubbers from Sussex have been examined and appear on the map, only three from Hampshire and none from Kent or Surrey have been included. The omission from this report of finds from the Thames other than those with a specific Kent or Surrey provenance grossly distorts the distribution pattern in this particular area.

While in general terms the distribution map reflects density of settlement, it also reflects the varying degrees of archaeological attention paid to different areas. For example, there is an apparent concentration of implements in east Sussex, from the downland above Eastbourne, which contrasts markedly with the area of downland in Kent around Dover, but there is no reason to suspect that prehistoric settlement in south-east Kent would be as dramatically less dense than in a comparable area of Sussex as the distribution would seem to indicate. Similarly the marked difference between numbers of artefacts from the downland and the Weald, undoubtedly very real in terms of prehistoric settlement patterns, has been over-emphasized by the collecting habits of archaeologists and collectors alike. In some cases the

implements themselves, which are by their very nature recognizably unusual, may be found built into later walls (Sy 52; Sx 60, 110, 137) or in later archaeological contexts (Sx 52-3, 142, 172). In such cases it cannot be known whether they are relics of prehistoric occupation in the vicinity, or were found elsewhere and preserved in a new context. Notwithstanding such reservations, a few useful observations can be made.

The implements are most numerous in those areas traditionally rich in prehistoric settlement sites, ie the chalk downland and other lighter soils. It is also noticeable how many of the Wealden finds lie near to the rivers and streams which drain that area. This is a pattern which appears to mirror that of Wealden flintworking sites, and seems to imply that the resources were being exploited by prehistoric groups moving along these routeways. In other areas the distribution pattern has suggestions of linearity, and one wonders to what degree these reflect prehistoric trackways, in a similar manner to that suggested in East Anglia (Clough & Green 1972, 115).

Of all the implements in the study those which have been attributed to a Cornish or a south-western source are by far the most numerous of the grouped implements represented. This tendency is even more marked if those implements are included which, although ungrouped, are likely to have a south-western origin. To what degree this is due to the volume of production of the south-western manufacturers, or the relish with which these implements were acquired by the south-eastern population, is not clear. Certainly there is a noticeable eastward decline of implement numbers, as might be expected with increasing distance from the centres of production,

The distribution of the implements does not lend support to the idea that local erratic pebbles (eg the Selsey erratics) could have formed the source material for a number of implements (Briggs 1976). Only in the case of Sx 92, a shaft-hole adze, broken and perforated from one side only, does this seem likely. All the other broken implements of rock of non-local origin appear to have fractured subsequent to, rather than during manufacture. Implements made from Welsh material (Fig 4c) also decrease in numbers eastwards, and it may be significant that many of them have been found either near to the coast or adjacent to the major river systems. Implements from Lake District groups (Fig 4b) are more widely scattered, though with an emphasis along the Thames and the south-west of Hampshire.

It may also be noted how many of the stone axes have a provenance on the chalk downland of southern Sussex, in just the area where there are most flint mines and flint axes were produced on a large scale. This prompts a number of questions. For example, although stone axes may have been superior to those of flint for various tasks, does the relatively free availability of flint axes imply that the ownership of a stone implement was of any social or religious significance or prestige value? Can the distribution pattern assist the interpretation of prehistoric trade and the mechanisms by which it was carried out? To what extent is the true picture distorted by ignoring the export of flint axes from production centres in the south-east, and was there in fact any significant exchange of axes between communities?

Regrettably, the evidence, certainly so far as the south-east is concerned, is too fragmentary and inconclu-

sive for such questions to be answered. Archaeological associations are few and implements in a primary datable context even rarer. The more important of the associations have already been mentioned, while the remainder are included as notes to the lists. Yet there are sites potentially capable of producing substantial information. The full results of the petrological examination of the implements (Sy 79, 80, 81) from Runnymede Bridge (Longley & Needham 1979) are still awaited, but it is undoubtedly from information obtained from sites like this, with such a range of well preserved archaeological material, that future advances will be made.

Geological and petrological considerations

Table 12 gives the proportions of implements from the south-east which can be assigned to the established petrological groups and, for comparison, the same data compiled on the basis of previously published reports for four other areas. In this respect the south-east and south-west areas are similar in having relatively low proportions, (ie 26% and 34%) of implements assignable to groups, while in contrast Lincolnshire, Nottinghamshire and Rutland with 72% and Yorkshire and East Anglia, both with 55%, are high, the first of these remarkably so. It is not clear why this difference exists between the south and the north and Midlands of England. For the south-east it is perhaps logical in that this area is the farthest from the known factory sites, which are located in the west and north of the country. But this argument should not apply to the south-west.

The south-east and south-west of England differ from the more northerly parts in being dominated, among the grouped implements, by those having a provenance in the south-west (ie Groups I-IV), while Group VI is usually the dominant group for the Midlands and North. This is clearly illustrated by Table 12. It is interesting to note that in terms of the relative proportions of Groups I-IV and VI East Anglia occupies an intermediate position. A similar conclusion was reached by a study of the typology of jadeite implements (Bishop *et al* 1977), a fact which may have some significance, although it is appreciated that jadeite axes have a Continental origin and thus represent an international rather than a national trade.

The variation among the south-eastern counties of the proportion of grouped implements is also interesting (Table 13), with Kent having 25%, Surrey 26%, Hampshire 38% and Sussex the remarkably low figure of 18%. The increase in Hampshire - the westernmost county - might be explained as reflecting the shorter distance to the source areas, and certainly Hampshire has a significantly higher proportion of implements belonging to Groups I-IV and VI than the other south-eastern counties. The very low figure for Sussex, attributable essentially to the relative paucity of Group I implements, is difficult to explain, but two possibilities occur. Firstly, among ungrouped implements epidiorites are very abundant in Sussex (23 implements), and Group I - and indeed Groups II-IV - are also epidiorites. On the whole, therefore, Sussex is just as well represented by this rock type as the other counties, and it is just that the particular type of epidiorite designated as Group I does not occur widely in Sussex. Perhaps Neolithic man in Sussex preferred a slightly different brand of such tools.

A second possible explanation for the low overall percentage of grouped implements in Sussex is that there was a high quality local source suitable for the manufacture of shaft-hole implements. In the statistics for the ungrouped implements (Table 11) and the products of ungrouped rocks (Table 15) the remarkably high figure for quartzite and sandstone is apparent. These are probably of local manufacture, and their abundance will clearly reduce the overall percentage of grouped implements. The group designated as quartzite/sandstone in these two tables comprises principally pebble-hammers and a few cupped pebbles: Hamp 136-42, Kent 63-71, Sy 92-104 and Sx 184-94. They are not differentiated petrologically as they have not yet been sectioned.

The sandstones and quartzites as a whole constitute 39% of all the ungrouped implements and 29% of the total number of implements identified petrologically in the south-east. In Sussex alone this group comprises 49% of the ungrouped implements and 40% of all implements, so providing a very good reason for the very low proportion of grouped implements found in the county.

It must also be pointed out that there may be a lack of agreement among petrologists who have examined the same thin sections as to the rock type. Generally speaking, the present petrologist (ARW) has required a closer match with 'type' specimens than other petrologists (many specimens kindly made available by the South-Western Group) in order to attribute a particular specimen to an established petrological group. However careful analysis suggests that this would affect the proportions of grouped to ungrouped implements in the south-east by only one or two per cent at most. Nevertheless, it must be appreciated that variation in interpretation does exist.

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4 The petrological identification of stone implements from London and Middlesex

T H McK Clough and WA Cummins

Abstract

Admits to the confusion of county numbering in the London area. Provides a concordance of the results available from museum and published sources.

It is unfortunate that, despite the best endeavours of the Implement Petrology Committee, coverage of London and Middlesex for the thin-sectioning programme has a confused history. The question of allocating county numbers, especially to material from the Thames, remains largely unresolved, and has been further complicated by local government boundary changes. A few London (Lond) and Middlesex (Msex) numbers were allocated to specimens examined by the South-Western Sub-Committee in the early years of the survey (Evens *et al* 1962). Other identifications are to be found in interim papers by Celoria (1974) and Stanley (1976), neither of whom was able to include reliable county numbers: indeed those 'Mx' and 'M' numbers tentatively quoted by Celoria have been omitted from this paper.

An extensive corpus of flint and stone axes from the Thames was subsequently compiled by Adkins and Jackson (1978), but this included axes and no other implement types, and none from London and Middlesex provenances apart from the river itself. Adkins and Jackson did, however, include finds from the river which, coming from further upstream, can be found listed under other counties: Berkshire (itself the victim of boundary changes), Buckinghamshire and Oxfordshire (Davis *et al*, ch 2; Cummins & Moore, ch 6). At present only the

question of finds from south of the river, in Kent and Surrey, promises to be satisfactorily resolved for the future, as detailed by Woodcock *et al* (ch 3), but as yet a number of earlier results also await integration into the sequence for those counties.

For the purpose of presenting as complete a corpus as possible of the results obtained as part of the Committee's work, it has been decided to list here the results from London and Middlesex as known to the editors. The list is in two sections: first, those stone axes from the Thames enumerated by Adkins and Jackson (1978) which are known to have been the subject of petrological examination (ie omitting flint axes and unexamined stone axes), many of which are also listed by Celoria (1974) and Stanley (1976); and secondly, those remaining implements listed by Celoria and Jackson but omitted by Adkins and Jackson, whether from the Thames or elsewhere. The entries are cross-referenced to other sources (such as the records of the South-Western Sub-Committee) as appropriate, and the few county numbers that are known are included. The opportunity has been taken to incorporate a number of corrections to the earlier lists.

A summary table of grouped implements has been compiled on the basis of this list, omitting any that are duplicates of entries in other papers, as shown in the note to Table 16.

Most of the implements included in the list are in the collections of the British Museum or the Museum of London. The editors are grateful to Miss J Macdonald, Mr R Jackson, Miss G Varndell and Dr A R Woolley, for their assistance in enabling the list to be compiled on the basis of the records and materials in their care.

Table 16 Totals of grouped implements listed from London and Middlesex

Group	I	I/1a	Ia	III	IV	VI	VII	VIII	IX	XIV	XV	XVI	XVIII	XX	Total	Ungrouped	Total
	16	8	6	1	1	19	11	1	5	1	1	3	1	1	75	40	115

Note: All the grouped implements are axes, except one Group VI flake and a Group XVIII battle-axe; ungrouped implements are all axes, except one perforated pebble, one mace-head, one battle-axe, and one shaft-hole adze. Seventeen other implements are duplicates of entries in other regional lists and not included in this table: for Ber 23, 28, 36, 41 (now all in Oxfordshire), and Bu 9, see Cummins & Moore (ch 6); for Ber 20, 22, 24, 30-1, 40, 49, 53-4, 63, 65, see Davis *et al* (ch 2); for Sy 4, Kent 4, see Woodcock *et al* (ch 3). Lond 1-2, Msex 1-3, and 'Thames' (SW 1066) appeared in Evens *et al* (1962), but are not duplicated elsewhere in this volume.

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5 The petrological identification of stone implements from East Anglia: second report

Barbara Green

Abstract

This report covers 220 implements examined since the first report was published in 1972. Of these, 101 have been assigned to petrological groups; three of these groups were not previously recorded for the region. The archaeological associations of few of the implements are discussed.

Introduction

This report covers 220 implements which have been examined since the first report was published (Clough & Green 1972). The area covered includes the counties of Cambridgeshire (including, since April 1974, the former county of Huntingdonshire and the Soke of Peterborough), Essex, Norfolk and Suffolk. All the implements from Huntingdonshire and the Soke of Peterborough have been given Cambridgeshire numbers, apart from Hun 1 and HUN 2, which had already been published in the fourth south-western report (Evens *et al* 1962) with Huntingdonshire numbers. Of the 220 implements examined, 101 have been assigned to petrological groups, 115 have ungrouped status, and four unsectioned specimens remain unidentified. This brings the total number of stone implements which have been examined to 630, of which 330 are assigned to petrological groups.

Petrology

Grouped implements

Additions to the groups recorded in the first report are listed below, together with implements belonging to Groups XIV, XVII and XXIIIa, which have not previously been identified in East Anglia.

Group I: nineteen axes (including five near Gp I): CAM 112, 127, 142, 156, 157, 162; E 45, 52; N 155, 156, 168, 188, 189, 224, 234, 239, 244; S 122, 124; and one Thames pestle macehead: N 204.

Group VI: 35 axes: CAM 109, 110, 111, 113, 115, 116, 117, 119, 128, 131, 133, 139, 141, 145, 151, 152, 154, 155, 159, 160, 161; E 44, 47; HUN 2; N 164, 165, 167, 231,

241, 243; S 120, 129, 136, 148, 163; a polishing stone: CAM 146; and two flakes: CAM 166; S 166. Of the axes, CAM 141 and S 120 are reworked, and N 165 is a fragment which has been reworked to make a miniature axe.

Group VII: five axes: CAM 134, 170; N 235; S 141, 142; and one flake: CAM 153.

Group VIII: one axe: HUN 1

Group IX: one axe: CAM 165.

Group XIV: one axe-hammer: N214 (Roe 1979, Class II).

Group XV: one axe: E 53; and two maceheads: S 143, Text

Group XVI: one axe: CAM 108.

Group XVII: one shaft-hole adze: N 228.

Group XVIII: four axes: N 162, 205, 207; S 153; three battle-axes: CAM 164; N 194; S 121; seven axe-hammers (including one near Gp XVIII): N 186, 201, 229; S 130, 131, 132, 137; and one shaft-hole adze (near XVIII): N 184.

Group XIX: one axe (probably Gp XIX): N 166

Group XX: nine axes: CAM 118, 126, 138; N 160, 171, 237, 240, 255; S 156; and one? pestle macehead: CAM 168; and two other maces: N 172; S 134 (partly perforated).

Group XXIIIa: one axe: S 154

These results are summarized in Table 17, with the results from the first report for comparison.

Ungrouped implements

Just over half the implements cannot at present be assigned to any of the known petrological groups (Table 18). Many are likely to have been made locally from glacial erratics. Two axe-hammers—N 195 of schistose grit with albite porphyroblasts, and N 245 of quartz-biotite-andalusite schist—are both likely to have their geological source in different parts of the Dalradian outcrop in the Scottish Highlands. Fenton (ch 15) has studied the axe-hammers of the whole of Scotland and has found no indication of axe-hammer production from either of these rock types. This effectively rules out Scottish trade as an explanation for these two axe-hammers, and leaves us with local production from glacial erratics. This argument

Table 17 Totals of grouped implements examined from East Anglia

	Group	Clough & Green 1972	This paper	Totals
Cornwall	I	47	20	67
	Ia	2	—	2
	II	2	—	2
	III	1	—	1
	IIIa	1	—	1
	IV	2	—	2
	XVI	2	1	3
	XVII	—	1	1
	XIX	2	1	3
				82
Wales	VII	11	6	17
	VIII	3	1	4
	XII	3	—	3
	XIII	3	—	3
	XXIIIa	—	1	1
				28
Lake District	VI	83	38	121
	XV	3	3	6
				127
Midlands	XIV	—	1	1
	XX	16	12	28
				29
Northern England	XVIII	41	15	56
Ireland	IX	7	1	8
Totals		229	101	330
Ungrouped		181	119	300
Overall totals		410	220	630

cannot however be applied to all ungrouped implements. Many axes made of ungrouped tuff may have been produced in the Lake District, perhaps even in some of the known axe factories. Furthermore many of the ungrouped greenstone and epidiorite axes are likely to have a Cornish source, and not one of the glaciations affecting East Anglia passed over Cornwall.

Some of the most interesting implements are those made of soft sedimentary rocks, which surely can have had little if any practical use. Attention has been drawn to such implements elsewhere (eg Keen & Radley 1971, 24). The most extreme example is a mace (N 257) described by Dr Healy in the Norfolk Sites and Monuments Index as 'apparently moulded from puddled chalk, decorated with a criss-cross pattern of incised U- and V- sectioned lines. Complete when found, though now fragmentary. Excrescences of material at ends of perforation and along incised lines suggest that it was very soft when made.' There were chalk fragments in the matrix. Another is a pebble-mace (N 257), from a Grooved Ware context (see below), made of Totternhoe stone, a variety of chalk.

An effort is now being made to record all the quartzite pebble-hammers and maces. In the first report these were not systematically included, because of the impossibility of identifying a source. In East Anglia a high proportion of them are likely to be erratics. The list is still incomplete.

Associations and archaeology

Only a small proportion of the implements come from dated contexts, even by loose association. A number recorded here as from excavations are not discussed below as detailed information on them is not yet available. As before, the known associations add little to our knowledge of the chronology of either implement types or petrological groups; rather they support what is already known. However they are of importance for our regional studies.

In the first report (Clough & Green 1972) there was a discussion of the implements recovered from the Fen edge occupation sites in Hockwold cum Wilton on the north side of the river Ouse. Since then others have been found in a similar situation on the Suffolk Fen edge, about eight miles south of Hockwold. A special study of this area is being made by Edward Martin of the Suffolk Archaeological Unit. He has kindly contributed the following note:

The Fen-edge at West Row consists of a complex pattern of low sand ridges enclosing small hollows in which fresh-water sediments have accumulated, which has been described as the Isleham-Adventurers-Willinham soil complex (Seale 1975, 126). Environmental work in the area has suggested that in the 2nd millennium B.C. there were wet grass-tussock conditions, possibly with scrub or trees nearby. There is some evidence for woodland clearance in the Bronze Age (Murphy 1983). The human occupation of the area was related to clearings on the drier 'sand-islands'.

Field-walking, mainly by C F Pendleton, in an area roughly 2 km square to the west of West Row has revealed a dense clustering of occupation sites on these 'sand-islands'. The occupation debris, in the form of pottery, flints and bone, ranges in date from the Mesolithic to the Iron Age. The majority of the finds, however, belong to the Bronze Age, with Iron Age material being in a definite minority. Stone implements S 136 (axe - Gp VI), S 138 (mace - garnetiferous amphibolite) and S 149 (axe - ophitic gabbro) all come from the same 'sand island'. Field-walking has produced a mixed range of pottery of the 2nd millennium BC: sherds from fairly crude domestic beakers with flint-gritted fabrics, bearing comb-stamped and finger-nailed decoration (as far as can be judged these sherds come from beakers belonging to Clarke's *E Anglian* group); collared urn sherds with corded decoration (there is also one piece with finger-nail impressions and one with round-toothed comb impressions); and some possible biconical urn sherds with finger-tipped decoration. The flint from the area includes microliths, arrowheads (leaf-shaped, transverse, transverse-derivative, and barbed-and-tanged), a laurel-leaf point, a plano-convex knife, half a polished flint axe and flakes from polished flint and stone axes. A fragment of jet was also found.

Implements S 135 (mace - quartzite) and S 139 (flake - ns) came from a second 'sand island' in the same field as the first and lying approximately 70 m to the SW of it. Pottery finds consist only of a comb-stamped beaker sherd and a flint-gritted sherd. A microlith, a transverse-derivative arrowhead and a broken polished flint axe were also found on this 'island'.

Implement S 138 (axe - Gp VI) comes from an 'island' some 400 m to the south of the first, on the very edge of the peat area. Pottery from this site includes a rolled-over rim of plain Neolithic type, two possible collared urn sherds, a sherd with ringer-pinch rustication and a rim sherd with slight horizontal cordons on the exterior. Five flint-gritted sherds from the site are possibly Iron Age in date, as is one small sherd with an exterior red slip. Flints include a microlith, a transverse derivative and a leaf-shaped arrowhead.

Implement S 146 (axe - greenstone) was found on an

Table 18 Newly identified products from ungrouped material from East Anglia (Clough & Green 1972: ungrouped including jade 181 + this paper 119 = 300)

	Axes	Battle-axes	Axe-hammers	Perf adzes	Maces	Misc	Totals
Tuff	13	—	1	—	—	2	16
Andesite	2	—	—	—	—	1	3
Basalt	—	1	—	—	1	—	2
Trachyte	—	—	—	—	—	1	1
Epidiorite/greenstone	13	—	—	2	—	2	17
Gabbro	5	1 + 1?	2	1	—	—	10
Dolerite	4	1	1	—	1	1	8
Diorite	2	—	—	—	—	—	2
Quartz porphyry	—	—	—	1	—	—	1
Amphibolite	3	—	—	—	1	—	4
Quartz biotite andalusite schist	—	—	1	—	—	—	1
Schistose grit with albite porphyroblasts	1	—	1	—	—	—	2
Tremolite fels	2	—	—	—	—	—	2
Actinolite fels	1	—	—	—	—	—	1
Quartzite	4	—	—	—	12	7	23
Sandstone	2	—	—	1	2	3	8
Greywacke	—	—	2	2	1	1	6
Calcite mudstone	1	—	—	—	—	—	1
Pyritous silstone	1	—	—	—	—	—	1
Limestone	3	—	—	—	—	—	3
Chalk incl Totternhoe stone	—	—	—	—	2	—	2
Jade	1	—	—	—	—	—	1
Unidentified	3	—	1	—	—	—	4
Total							119

'island' 600 m to the SW of the first site. Two beaker sherds with horizontal corded decoration (? from an AOC beaker) have been found in this area. The flint work consists of leaf-shaped, transverse and barbed-and-tanged arrowheads, a flint axe and a reworked fragment of a polished flint axe. A quern stone was also found in the vicinity. Some 200 m to the SW of this site is another smallish 'island' which is the find-spot of implement S 144 (? pestle - meta-tuff). Flint finds from this 'island' consist of a microlith, a barbed-and-tanged arrowhead and a polished flint axe fragment.

Implement S 142 (axe - Gp VII) was found in a potato harvester on a field which contains a 'sand island' which has yielded body sherds of collared urn type and numerous flints: microliths and leaf-shaped, transverse and barbed-and-tanged arrowheads.

Implement S 140 (flake - ns) came from an 'island' 1.7 km to the SW of the first site. The pottery from this site consists of two cordoned sherds with finger-nailed decoration, an urn (?biconical) sherd with round-toothed comb decoration, and a finger-pinch ornamented sherd. The only other recorded find from this site is a hammer-stone, though it is very likely that the field in which this 'island' lies was the location of C S Leaf's 1934 excavation at 'Fifty Farm, Isleham' (Leaf 1935). Leaf obtained a quantity of beaker pottery from his excavation which was classified by D L Clarke (1970, 2, 399, 497) as belonging to his FP, S3, SH4(c), S4 and S3(W) groups. A radiocarbon date of 1850 ± 150 bc (BM-152) has been obtained from charcoal from this excavation.

The cultural remains from the area seem to suggest that the 'sand islands' were the subject of repeated occupation from the Mesolithic period down to the earlier Bronze Age, with the main weight of the occupation falling in the dry period of the earlier Bronze Age.

In 1977 I excavated a part of a 'sand island' which lies approximately 300 m to the NW of the first site. The excavation produced, almost exclusively, collared urn

pottery, and radiocarbon dates from the site seem to place the occupation in the period 1350-1550 bc. Other radiocarbon dates from the area seem to imply occupation from about 1850 bc. There seems to be no good reason for supposing that the stone implements are not associated with this earlier Bronze Age occupation.

The nature of the occupation of the Fen edge in this period is still the subject of research. There is, though, a good possibility that it was seasonal, the fen being exploited by people practising a mixed economy who were also utilising the adjacent dry land, principally the Breckland.

Other implements from this same area are S 137 (axe-hammer-Gp XVIII), S 141 (axe-Gp VII), S 143 and S 147 (both maces - Gp XV), and S 145 (quartzite mace or shaft-hole adze).

Two other implements which seem to have Beaker contexts are the Stage IIA battle-axes CAM 164 and S 121, both of which are Group XVIII. Although it has proved impossible to determine any precise details about the find-spot of S 121, there seems little doubt that it was found associated with an S2 beaker in the Stowmarket area. CAM 164 is an almost identical battle-axe (Roe 1979, fig 1 as CAM -), found in a barrow destroyed by gravel digging at Newark, Peterborough, in the early years of the 20th century (Leeds 1912, 82). Found with it were two flint daggers (Leeds 1911-12, fig 2). Similar daggers have been found with W/MR Beakers from Fakenham, Suffolk and West Overton, Wiltshire (Clarke 1970, figs 176, 179) and with SI Beakers from Alsop Moor, Derby, Acklam Wold 124 and Garton Slack 37, Yorks (Clarke 1970, figs 776, 780 and 778). Garton Slack 37 also contained a Stage II battle-axe, possibly a dolerite (Keen & Radley 1971, 29). All of this material would fit into Lanting and van der

Waals Stages 5 and 6, that is c 1800-1600 bc, with a strong likelihood that both battle-axes should be c 1650 bc or soon after (Lancing & van der Waals 1972).

Of the other associations, CAM 161, a Group VI flake found in excavations at the Padholme Road site, Fengate, has not been more closely dated than the 2nd millennium bc (pryor 1974). Part of a pebble-mace (N 217) made of Totternhoe stone was found in fill in the top of a pit with Grooved Ware sherds of Clacton style during excavations at Redgate Hill, Hunstanton (Healy, in prep). The hoard from Great Baddow, Chelmsford, containing a greenstone axe (E 55) with five flint axes and a triangular flint 'knife', still awaits publication. This remarkable assemblage was found in 1949 while removing topsoil to make a new garden path. The objects lay in gravel and clay topsoil with the top of the group at 14 in below the surface. The hoard is now in the British Museum.

Perhaps the earliest datable implement from the region is the Group VI fragment (S 166) discovered during the investigation of Swale's Tumulus at Worlington, Suffolk (Briscoe 1957). This fragment was found associated with worked flints in the remains of a fire. This deposit, together with other material such as animal bones and a cremation burial, was interpreted as a primary Neolithic burial, rather than a domestic deposit. Kinnes (1979, 58-9) has re-examined the evidence and accepts the deposit as a Neolithic pyre in an oval pit together with a grave containing burnt remains. He places it in his stage C which is dated to c 3000 bc on a single radiocarbon date 2890 ± 80 bc (HAR 368), (Kinnes 1979, 14 and fig 8, 1). Such a date would conform to the earlier stages of working of Group VI deposits (Smith 1979, 14).

For some regions a parallel study of stone and flint axes has already been published (eg Manby 1979; Moore 1979). This is not yet possible for East Anglia, but surveys of Norfolk (Healy 1980, summarized 1983) and Essex (Hedges 1980, figs 13 and 14) have been carried out. The information is presented quite differently for the two counties, so it is not easy to draw direct comparisons. However it is clear that in both counties the number of flint implements far exceeds that of stone implements. The distributions are similar except that the flint axes are more widespread. In Essex the distribution is coastal and riverine. The main concentrations there are in the Walton-on-the-Naze area, in the valley of the river Colne and its tributaries, around Coggeshall in the Blackwater Valley, around Chelmsford in the Chelmer valley, between the river Roach and the mouth of the Thames at Shoebury Ness, and in the Thames valley between Mucking and Tilbury (Hedges 1980).

Healy (1984) points out that the concentrations of stone implements in the Colchester-Ipswich area and in the Breckland/Fen edge area correspond to known major areas of settlement, in the 3rd and 2nd millennia, and in the 2nd millennium respectively. However, the other major area of Neolithic and Early Bronze Age settlement, in the loam area of East Norfolk and the river valleys of mid Norfolk, has produced few stone implements. Dr Healy has plotted by means of pi diagrams for the 10 km² of Norfolk the distribution and composition of 1638 flint and stone axes and adzes recorded up to early 1978, excluding those found on industrial sites. Of these 90% were of flint, 7.9% of stone and 2.1% of unspecified material. Although the numbers of stone implements

from the major occupation area of north-east and mid Norfolk are very low, the numbers of flint axes are only exceeded by the Breckland/Fen edge area of south-west Norfolk. Here, in one 10 km² the proportion of stone implements to flint was nearly 1:4. Dr Healy has suggested that the 'density of settlement on the south-eastern Fen edge and the number and richness of surface finds there . . . would suggest that, by the second millennium bc, a focus of wealth existed there sufficient to attract a wide variety of non-local products, and perhaps even to divert them from the less wealthy settled area to the east.'

Mention should be made of recent work on the sources of polished flint axes by a study of the trace element composition (Craddock *et al* 1983). Of the implements examined from the region, 67% (133 axes) could be classified to known mines. Of these only 12% came from local sources, that is 21 axes from Great Massingham and five from Grime's Graves. By far the largest number (66) came from sources in the South Downs, while nineteen came from Wessex. The percentage of unclassified axes from the region is almost double that of the groups examined from south-east England and Wessex. Further work is clearly needed to determine what other sources were used and how representative is the sample already examined.

Six hoards were analysed - four from Norfolk, one from Suffolk, and one from Essex. The latter is the hoard from Great Baddow, Chelmsford, which contained a greenstone axe (E 55). Four of the five flint axes could be attributed to sources in the South Downs. The other hoards contained axes from sites in the South Downs and Wessex. Only one - the Fleggburgh hoard - contained an axe from a local source; this is one of the five attributed to Grime's Graves.

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6 The petrological identification of stone implements from the south-east Midlands

WA Cummins and W R G Moore

Abstract

A report on the petrological identification of some 292 stone implements from the counties of Bedfordshire, Buckinghamshire, Hertfordshire, Northamptonshire and Oxfordshire. Nearly 60% of the implements have been assigned to fourteen of the established petrological groups. Of these, Group VI is by far the most abundant. The distribution of finds shows some correlation with major river valleys and with areas of light soil.

Introduction

The area covered by this report comprises the counties of Bedfordshire, Buckinghamshire, Hertfordshire, Northamptonshire and Oxfordshire, as defined by the Local Government Act 1972, which came into force on 1 April 1974. As a result of this Act the county of Oxford now extends over a considerable area south of the Thames, including the districts of Abingdon, Faringdon, Wallingford and much of Wantage, all of which were formerly in Berkshire. New finds from these districts are given Oxford county numbers, since they come within the area of interest of the Oxford County Museum. However, implements from these districts already published with Berkshire numbers retain those numbers. Petrological work on the stone implements of the south-east Midlands can be divided into three periods.

The south-western period

Before the advent of the Council for British Archaeology, occasional implements from this area were submitted to Dr F S Wallis and Mr E D Evens. Their identifications were published in the south-western reports (Keiller *et al* 1941; Stone & Wallis 1947; 1951).

The early CBA period

In the 1950s a great impetus to the petrological identification of stone implements in this area, as elsewhere, was provided by the CBA's new Sub-Committee for Implement Petrology (Grimes 1979). During this period the south-east Midlands and East Anglia were studied together, under the general direction of Mr R Rainbird Clarke of the Castle Museum, Norwich.

Petrological identifications were made by Dr Wallis and Mr Evens, some of which were published in the fourth south-western report (Evens *et al* 1962); by the Geological Survey, some of which were also published (Sanderson 1970); and by Professor F W Shotton. This period of activity came to an end about 1960. The programme of work based on Norwich Castle Museum was then restricted to the more manageable area of East Anglia, and eventually published (Clough & Green 1972). Work in the south-east Midlands came to a standstill except in Buckinghamshire, where Mr C N Gowing of the County Museum continued to send all available material to Professor Shotton for identification.

The later CBA period

From 1972 until the completion of this paper, work in this area was coordinated by Dr W A Cummins, who has also done the petrological identifications. Mr W R G Moore has searched the records and collected implements for sectioning from Northamptonshire. Mr D Benson and, more recently, Mr J G Rhodes, of the Oxford County Museum, have done similar work in Oxfordshire. During this period the number of petrological identifications has more than doubled, and the present report is based on the study of 292 stone implements. This total, which represents almost complete coverage of some twenty museums, as well as a considerable number of private collections, is considered to be a representative sample of the stone implements found in the area.

The distribution of stone implements in the south-east Midlands is sufficiently uneven to invite comment. More than half the finds come from the valleys of the major rivers and their tributaries: the Thames in the south, the Nene in the north and, to a lesser extent, the Ouse in the east. Some of them, particularly from the Thames, have been recovered from the rivers themselves, during dredging operations. Apart from the river valleys, a general north-east-south-west pattern is discernible on the distribution map. Along the Bedfordshire-Hertfordshire border there is a scatter of finds, which is clearly the south-westward extension of the great Fen edge concentration of East Anglia (Clough & Green 1972, 115). North-west of this, in the low ground between Oxford and Bedford, finds are very sparse, and they are not much more frequent on the Chilterns to the south-east. This

distribution pattern shows some relationship to the geology of the area.

The solid rock formations in the south-east Midlands are of Jurassic, Cretaceous and Tertiary age, and dip gently towards the south-east. The outcrops trend in a general north-east-south-west direction, but are complicated by an intricate dendritic pattern along the river valleys. The Lower Jurassic (Lias) rocks in the north-west are mainly clays. The Middle Jurassic rocks include sandstones and limestones. The Upper Jurassic outcrop, which occupies much of the low-lying ground between Oxford and Bedford, is dominated by the Oxford Clay. The Lower Cretaceous (Gault and Greensand) consists of clays, sands, and sandstones. Above these comes the Upper Cretaceous Chalk, which forms the prominent Chiltern Hills, in the south-eastern part of the area. The Tertiary strata, which have a limited outcrop in the extreme south-east of the area, are gravels, sands, and clays. These solid geological formations are masked over much of the area by superficial deposits. In the northern and eastern parts of the area there is an extensive blanket of boulder clay, while further south much of the Chalk outcrop is capped by a deposit of clay with flints.

Geologically the distribution of stone implements in the south-east Midlands shows a marked preference for light, well drained soils, based on sandstone, limestone, chalk, sand and gravel, and a tendency to avoid clay formations. In the north erosion during the last 100 000 years or so, since the area was last glaciated, has removed most of the boulder clay from the flanks of the Nene valley and its tributaries, to expose the Middle Jurassic sandstones and limestones, on which a large proportion of the stone implements have been found. In the south the River Thames is flanked by extensive terrace deposits of sand and gravel, which formed a suitable substratum for prehistoric agriculture. In the south-east many of the finds along the Bedfordshire-Hertfordshire border are located on the lower part of the Chalk, where it is not capped by clay with flints. In contrast to these areas of relatively abundant stone implements other areas, such as the low-lying ground between Bedford and Oxford and the high ground of the Chilterns, have yielded very few finds. These areas are underlain by clay formations - the Oxford Clay, and the superficial clay with flints respectively.

Petrology

Grouped implements

The petrological data are summarized in Table 19. Nearly 60% of the 292 implements have been assigned to fourteen of the established petrological groups. Of these Group VI, with 35% of the total, is far the most abundant, followed by Groups I (8.5%), VII (4.1%), XX (3.8%), VIII (1.7%), and XVIII (1.4%), with Groups Ia, III, IX, XIV, XV, XVII, XXIII, and XXIV, represented by only one, two or three implements each. The axe from Bledlow (Bu 1), formerly attributed to Group V, is now assigned to Group XXIV. The distribution of the grouped stone implements is discussed later, in a national rather than a local context.

Typologically they conform to patterns already described and illustrated from adjacent areas to the south-west (Keiller *et al* 1941; Stone & Wallis 1951; Evens *et al* 1972), to the east (Clough & Green 1972), and to the

north (Cummins & Moore 1973; Moore & Cummins 1974). There is thus no need for a comprehensive account of each group, but a comment may be made on the Group XIV axe (Np 10), which was identified (Evens *et al* 1962, no 990) not long after the group was first recognized and traced to its source in the Nuneaton area of Warwickshire (Shotton 1959). It still remains the only axe of this group, which specialized in the production of axe-hammers and battle-axes. It is *not*, of course, necessary to suppose that this axe was produced at an axe-hammer/battle-axe factory. If implement petrology in England had been restricted to the study of axes, Group XIV would never have been established, and this particular axe would have been one of many ungrouped axes made from a wide range of odd rock types. If it is accepted that *many* axes were not the products of axe factories, there is no reason why some of these should not belong quite fortuitously to petrological groups.

Ungrouped implements

Ungrouped implements account for just over 40% of the total and, while it would be unreasonable to make definite statements about the source of all of them, a few generalizations may perhaps be allowed.

Quartzites, though they are not really a petrological group, are nonetheless a meaningful assemblage. Quartzite is, both chemically and physically, extremely stable, so quartzite pebbles tend to be preserved through several geological periods, while other pebbles disappear through weathering and abrasion. The Sherwood Sandstone Group (formerly known as the Bunter Pebble Beds), in which quartzite pebbles are dominant, has an extensive outcrop to the north and north-west of this area. Glacial deposits derived from this group extend the range of these pebbles southwards and eastwards, and this range is even further extended by river gravels derived from the glacial boulder clays. Of the nineteen quartzite implements listed here, there are thirteen pebble-hammers, three maceheads, a battle-axe, an axe, and a polisher. The possible source area for these implements is very large indeed, and it is very unlikely that they were made in a 'pebble-hammer factory'.

Ungrouped *greenstones* account for nearly 10% of all the implements recorded here - 22 axes and 2 maceheads. The source of most of these implements was probably in Cornwall.

Ungrouped *dolerites* account for about 7% of the implements listed - 9 axes, 2 adzes, 4 maceheads, 2 axe-hammers, and a battle-axe. There is a wide range of possible source areas for these implements.

Ungrouped *tuffs* also account for about 7% of the implements listed - thirteen axes or axe fragments, two adzes, a battle-axe, and a macehead. Two of these (Np 19, Ht 22) are ethnographic strays, and one (Np 55) a Scandinavian import. Of the remainder many probably came from the Lake District, some perhaps even from the known axe factories.

The remaining ungrouped implements are made from a wide variety of rocks, almost all of which have their primary source outside the south-east Midlands. Some of these are distinctive rock types, and might be traced to their source without too much difficulty. However, so long as they remain ungrouped, there is a high probability

that the implements were made more or less locally from a secondary source in the 'drift' deposits.

Archaeological association and dating

About an eighth of the stone implements listed in this report come from excavations at fourteen archaeological sites, ranging in date from Neolithic to Saxon and medieval. Though only a relatively small number of these come from Iron Age or later contexts, and few archaeologists would take such associations seriously as evidence for dating the continued use of stone axes, the fact that they do occur points to a real problem. Stone implements, whether complete or fragmentary, are almost indestructible. Their appearance in an archaeological deposit may thus be interpreted in three different ways: 1) they may have been in use at the time the deposit was accumulating; 2) they may have been found and kept as curiosities, or for some ritual purpose (Stone 1951), in which case they are older than their association would suggest; and 3) their presence in the deposit might be accidental, like any other stone from the soil, in which case also they are older than their association would suggest. Of these three interpretations the second would be more applicable to complete implements, and the third to fragments, but there seems no obvious way of distinguishing the first from the other two. Each individual association, therefore, whether Neolithic or Iron Age, can do no more than provide a *terminus ante quem* for the implement concerned.

The causewayed enclosure on Briar Hill (Bamford 1985) has produced the best sequence of stratified Neolithic deposits in the south-east Midlands. Most of the ditches on the site had been recut on one or more occasions so that they contained a good sequence of primary and secondary fillings. All these ditch-tilling deposits, apart from the uppermost layers of the final fill, contained

sherds of earlier Neolithic bowls with East Anglian affinities. Radiocarbon dates ranging from 3730 + 90 bc (HAR 4072), 3590 + 140 bc (HAR 4092), and 3490 + 110 bc (HAR 2282) to 2710 + 70 bc (HAR 4075), 2660 + 90 bc (HAR 4071) and 2560 + 90 bc (HAR 3208) span this earlier Neolithic period of ditch-cutting and recutting. The top layers of the final fill contained sherds of Late Neolithic Mortlake, Fengate and Beaker pottery. Pits cutting the final fill of the inner ditch gave radiocarbon dates of 1840 + 100 bc (HAR 4073), 1780 + 70 bc (HAR 4067), and 1670 + 90 bc (HAR 4089), all based on charcoal from mature oak.

A Group I axe fragment (Np 102) from Briar Hill came from the surface soil and cannot, therefore, be precisely dated. A Group I axe (Ox 7) from a ring ditch at Dorchester is not much more informative. The ring ditch itself produced no internal dating evidence, but was shown to have been abandoned before the construction of 'the Big Rings', a henge monument which produced sherds of Beaker pottery from the lowest ditch silting (Case & Kirk 1954).

Group VI axe fragments (Np 104-7, 108 a-k), mainly small flakes, were recovered from all levels of the primary and secondary fillings of the ditches at Briar Hill, as well as in later Iron Age and Roman features, and in the surface soil. Group VI axes had therefore been in use during the primary Neolithic occupation of the site, in the second half of the 4th millennium and the first half of the 3rd millennium. Group VI axe fragments (Ber 7, Ox 51-4, Ox 56) have also been found in the causewayed enclosure at Abingdon. Here, as on Briar Hill, the ditches had been cut and recut but, unfortunately, only one of the Group VI fragments (Ox 56) can now be related to a datable context. This flake came from the upper fill of the inner ditch, from which a radiocarbon date of 2510 + 140 bc (BM 355) was obtained (Smith 1979, 18).

A Group VII axe fragment (Np 101) was found in the

Table 19 Products of grouped rocks from the south-east Midlands

Group	Axes	Flakes	Battle-axes	Axe-hammers	Others	Totals
I	22	—	—	—	1 sh-adze	23
I (probably)	—	—	—	—	1 sch-adze	1
Ia	1	—	—	—	—	1
III	—	—	1	—	—	1
VI	79	23	—	—	1 adze	103
VII	7	3	—	—	1 axe (?)	11
VII (near)	1	—	—	—	—	1
VIII	3	—	—	—	—	3
VIII (near)	2	—	—	—	—	2
IX	2	—	—	—	—	2
XIV	1	—	1	1	—	3
XV	1	—	—	—	2 pick (?) & sh-adze	3
XVII	1	—	—	—	—	1
XVIII	1	—	2	1	1	5
XX	9	—	—	—	2 p-h & mace	11
XXIIIa	2	—	—	—	—	2
XXIV	2	—	—	—	—	2
Totals	134	26	4	2	9	175

final fill of the inner ditch at Briar Hill. The axe was therefore broken during or before the Late Neolithic (Mortlake, Fengate, Beaker pottery).

Part of a Group XVIII axe (Ox 71) has recently been excavated from a Late Neolithic pit at Thrupp House Farm, Radley. The associated pottery was Grooved Ware (J Wallis, pers comm), which supports a date of around 2000 bc, suggested by Smith (1979, 20) on the basis of a surface find from Windmill Hill.

A Group XX pebble-hammer fragment (Np 103), the edge of which showed evidence of considerable use, was found in the final fill of the inner ditch at Briar Hill. Like the Group VII axe, this Group XX pebble-hammer must have been broken during or before the Late Neolithic period.

None of the other grouped implements come from well dated contexts. The associations of ungrouped implements are given in the notes which follow the list of identifications.

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This work would not have been possible without the generosity of the museums and private collectors, who have allowed us to examine and section the stone implements in their possession. Most of these are named under the heading 'Museum or Collection', in the lists which accompany this report. Dr Helen Bamford has given details of associations for the important assemblage of grouped stone implements from Briar Hill, as well as supplying the latest radiocarbon dates for the site, before publication. In checking the data given in the county lists we have received considerable help from Mr A C Cox (Bedfordshire), Mr M E Farley (Buckinghamshire), Mr T M Jeffrey (Hertfordshire), and Mr J G Rhodes (Oxfordshire). Mrs F E S Roe has helped with the classification of the shaft-hole implements. We would like to record our thanks to all those who have helped us and our predecessors in this work.

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7 The petrological identification of stone implements from the East Midlands: third report

T H McK Clough and W A Cummins

Abstract

Includes 227 new identifications from Derbyshire, Leicestershire, Lincolnshire, Nottinghamshire and Rutland. These cause little material alteration to the previously known picture. Draws attention to new examples of grouped implements, of which some have valid archaeological associations.

Introduction

Two separate reports for different parts of the East Midlands have previously been published, in the *Proceedings of the Prehistoric Society*. The first covered Lincolnshire, Nottinghamshire and Rutland (Cummins & Moore 1973); the second covered Derbyshire and Leicestershire (Moore & Cummins 1974). The earlier history of petrological studies in these counties is recounted in those reports. Following their publication Mr C N Moore left Lincoln Museums in 1975 to become Curator of the Grosvenor Museum, Chester, and passed over the archaeological records to Mr T H McK Clough at the Rutland County Museum, Oakham. The boundaries of these counties remain unchanged, except that administratively Rutland is now in Leicestershire, and part of north Lincolnshire lies within a county of Humberside. It has not been thought necessary to alter the county numbering system for this area.

Dr W A Cummins has continued to undertake the petrological identification work. Thin sections were cut by Mr J Blount at Imperial College, London until 1978, when other duties prevented him from continuing this excellent service. Since then sectioning has been carried out in the Geology Department of Nottingham University by Mr J Travis. Here it has been possible to use a technique new to the CBA survey, but previously used with great success by Le Roux (1979) in Brittany, namely the removal of samples by a hollow-core drill. This method is described and illustrated in this volume by Fenton and Travis (ch 1). A few implements of Group VI rock or quartzite have not been sectioned, but have been identified macroscopically.

Since the preparation of the first two reports a total of 227 new identifications have been made and are published here. They include eight specimens from Leicestershire,

26 from various sources in Nottinghamshire and five from Rutland. The major work, however, has again been done on material from Lincolnshire, with 114 new specimens including implements from the collections of the Spalding Gentlemen's Society, and of Grantham, Louth and Stamford Museums, and from Derbyshire, with 77 additions including a number from the Lucas collection in the British Museum and others from Buxton Museum. In all the counties the local museum collections have been almost completely covered, including new discoveries and additions to the collections. On the other hand many implements, especially in Lincolnshire, whose discovery was recorded in years gone by but which remain in private hands or are lost, have gone unexamined by a petrologist. Future work may bring some of them to light, and will also cover museum collections elsewhere, which may include finds from the East Midlands. With that reservation we may still regard the coverage of stone implements as properly representative.

The total number of implements now examined for each county stands as follows: Derbyshire 283, Leicestershire 55, Lincolnshire 458, Nottinghamshire 102, and Rutland 8. As always we are glad to acknowledge the generous assistance and cooperation of those owners, private and corporate, who have permitted us to do this work and thus to achieve this total.

Petrology

Nearly two-thirds of the additional implements noted in this paper have been assigned to the known petrological groups. The proportions and distributions of the various groups (Table 20) deviate very little from those recorded in the earlier reports (Cummins & Moore 1973, 221; Moore & Cummins 1974, 61). Only Group XV has assumed a slightly greater importance and wider distribution in the area than before, but this is no more than is commensurate with its occurrence in a wider context (Roe 1979, figs 3, 6, 12, 15). No additions have been made to Groups IX, XVI, near XVII, or XXIV, which are still represented by only the occasional specimen. The axe from Bottesford (Li 152), formerly attributed to Group V, has now been assigned to Group XXIV. The overall distribution patterns of grouped implements in the East Midlands area therefore appear to have been reliably

Table 20 Details of grouped implements from the East Midlands in this paper, plus totals previously published (Cummins & Moore 1973; Moore & Cummins 1974)

Group	Axes	Battle-axes	Axe-hammers	Other types	Total	1973 + 1974	Total
I & near	6	—	—	—	6	25	31
VI & near	76	—	—	—	76	281	357
VII & near	22	—	—	4	26	60	86
VII & near	4	—	—	—	4	6	10
IX	—	—	—	—	—	5	5
XII	—	1	1	—	2	6	8
XIV	—	—	2	—	2	7	9
XV	1	1	5	2	9	13	22
XVI	—	—	—	—	—	3	3
XVII & near	—	—	—	—	—	1	1
XVIII & near	3	2	6	1	12	36	48
XX & near	10	—	—	—	10	31	41
XXIV	—	—	—	—	—	2	2
Totals	122	4	14	7	147	476	623
Ungrouped					80	200	280
Total examined					227	676	903

identified, and are unlikely to be materially altered by future work unless, perhaps, petrological groups as yet unidentified are found to be present.

The remaining third of the stone implements listed in this report do not belong to any of the established petrological groups. For the purpose of a general summary these 78 implements have been assigned to nine broad lithological categories. The percentages of implements belonging to each of these broadly defined rock groups are compared with similar figures for the 200 ungrouped implements listed in the previous reports (Cummins & Moore 1973; Moore & Cummins 1974), taken together and shown in brackets: *tuffs* 33% (27%); *lavas* 5% (5.5%); *dolerites* (including quartz dolerites, olivine dolerites, and gabbros) 11.5% (13%); *other igneous rocks* 4% (8%); *greenstones* (epidiorites) 10% (9%); *metamorphic rocks* 10% (10.5%); *sandstones and greywackes* 15% (17%); *other sedimentary rocks* 6.5% (5%); *quartzites* 5% (5%). The general pattern of ungrouped rocks, as might be expected, also shows very little change.

It is not, of course, possible to make definite statements about the geological source of all these implements, but a few general remarks may be useful.

Tuffs are the most abundant of the ungrouped rock types, just as Group VI is dominant among the grouped implements. Many of these tuffs are petrologically not far removed from Group VI, and it is likely that these come from the Lake District, either from the known axe factories or from others as yet undiscovered. The typology of many of these implements supports this proposition.

Greenstones are moderately abundant, and many of these may have come from Cornwall.

Of the remainder some of the sandstones and other sedimentary rocks may be of local origin, but most of the igneous and all the metamorphic rocks must be derived from ultimate geological sources outside the East Midlands.

It is possible that some of the ungrouped implements may eventually be incorporated in as yet unrecognized petrological groups from Scotland or the Lake District. As an example if the Killin axe factory had not been

discovered, it would not have been possible to assign the two Lincolnshire axes (Li 152, 341) to Group XXIV, but these are only two axes out of a total of 903 stone implements so far examined from the East Midlands. Other ungrouped implements are likely to have been made locally from glacial erratics, the view long championed by Briggs for almost every axe, whether grouped or ungrouped (Briggs 1976; 1977).

It is generally impossible to determine by examination of a stone implement whether it was made from a glacial erratic or not (Cummins 1978a). In this respect a stone flake (Db 283) recovered during the excavation of Wigber Low (Collis, *et al* 1983) is of interest. The flake, which shows no trace of any polished surface, is plano-convex, 70 mm long by 55 mm wide, and with a maximum thickness, near one end, of 20 mm. The convex face is fresh. The flat face is stained to a depth of about 1 mm, and looks like a natural joint surface, along which the rock would have split very easily. The size of this flake, and its other characteristics, show that it cannot have been derived from a polished stone axe. The rock type, a welded acid tuff containing abundant feldspar crystals and eutaxitic texture clearly visible on fresh surfaces, is quite foreign to Derbyshire. The implication is that this is a waste flake, struck off while a glacial erratic was being worked to make a stone axe. The rock is similar to, but not identical with, three axe fragments (Db 256) from the same site.

Typology and archaeological associations

Although no individual comment is necessary here about most of the implements from the East Midlands listed below, a few remarks about certain groups and particular specimens are desirable.

As one would expect, all the additions to Group VI are axes or fragments of axes. Most fall into the usual range of fairly small, workaday tools, often shortened by perceptible resharpening, and occasionally showing attempts, successful or otherwise, at reflaking. A particularly good examples of such reworking is Db 212 from Wormhill. A few of the Group VI specimens, however, are excep-

tionally fine and attractive pieces, notably Not 81 and Not 96, both from Colwick and both of a beautifully laminated tuff. Since both are ostensibly from the same parish, it is unfortunate that neither has a sound archaeological provenance - Not 81 having been found in a gravel pit conveyor belt and Not 96 having come to light in a 19th-20th century rubbish dump. It was considered unnecessary and undesirable to section either of these. Another very fine Group VI axe (Db 267) comes from Wormhill; it is a large one, 310 mm long, but lacks the butt-end waisting so typical of many Cumbrian axes (Fell 1964).

A useful number of additions have been made to Group VII, the second most common group in the East Midlands. The additional implements reflect very well the variable quality of Group VII products, both in finish and in style. Of especial interest is the large roughout, 273 mm long, from the river Trent at Holme Pierrepont, which has been published in detail elsewhere (Cummins 1978b). The Group VII axe from Bracebridge Heath (Li 452) is one of a growing number of axes of various rocks with an identifiable area of roughening where the haft would have been. And the axe from Tealby (Li 350) is one of two axes listed here with unfinished perforations, contemporary or otherwise. The other is an ungrouped greenstone axe with an unhelpful post-medieval context from Broadgate, Lincoln (Li 393). This is an enigmatic feature, possibly representing attempts to fashion an adze, but not so clearly functional in intent as the occasional attempt to re-perforate a broken axe-hammer or battle-axe - for example, one of ungrouped dolerite from Ropsley with Humby (Li 459).

An old find, but one which is identified petrologically for the first time, is the Group XV axe-hammer with fluted sides from Wollaton Park, Nottingham (Not 94).

The Group XVIII battle-axe from Croxton Kerrial (Le 48) is a very attractive implement, and is decorated with a rare border of fine incised lines. The axe from Dovedale (Db 219) which has been identified as near Group XVIII, is of interest because it is virtually a miniature (only 70 mm long), and thus something quite unusual in the repertoire of Group XVIII proper.

Several more Group XX axes have been identified. This is the only group whose origins are known to lie in the East Midlands, the source lying somewhere within the Charnwood Forest area (Shotton 1959). No concerted effort has yet been made to locate an exact provenance or working site. However, the increasing body of petrological attributions to Group XX from various parts of the country is now sufficient to show that it was of some importance. These additional implements have tended to confirm earlier impressions that a high proportion of its products were axes of a carefully made, perfectly finished and distinctive design (Clough & Green 1972, 123), which are found over a wide area. This axe type is now sufficiently well established for even some broken specimens, like the butt fragment from Ropsley and Humby (Li 456) to be attributed to it with some confidence. It is noteworthy that a large axe of this type, with clear evidence of shortening and reworking, from Rowston Grange (Li 421) is petrologically only 'near XX'. This may imply that there is a petrographically wider variation among the products of this factory (and therefore in the source material) than a strict definition would allow.

The remaining minority of Group XX products vary extensively, from maceheads to axes of an unusual rectangular section. A more detailed study of this group would be timely.

Hardly any archaeological associations could be recorded in the first two reports for the East Midlands counties. We can now include several direct or indirect associations for different groups. These are described in the additional notes to the list of identifications and are not recited in detail here. Particular mention need be made only of four sites. Two Grooved Ware sites have produced Group VII material - near Aleck Low (Db 260) and at Barholm (Li 378-80). These finds add weight to the late currency of this group instanced by Smith (1979, 19). Useful also is the selection of fragmentary material from Wigber Low (Db 254-7 and 283), where Groups VI, VII and XX, together with ungrouped material, have been found in various contexts in and under the cairn, associated with Neolithic pottery (Collis *et al* 1983). The contemporary account of the Group VI axe from Great Casterton (Rut 6) found with human remains in stone quarrying, regarded this as a case of accidental death after a fall into the fissure rather than a deliberate interment. Less valuable, except as general indicators, are a number of loose fieldwork associations, where grouped and ungrouped material and flints have come from the same general area. It is, however, encouraging to see that stone axe material has been recognized and recovered in fieldwalking. The deliberate work of field archaeologists is now proving as fruitful in this respect as it is for the archaeology of all periods.

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8 The petrological identification of stone implements from the west Midlands: third report

F W Shotton

Abstract

The commonest *axe* in the west Midlands is of Group VI from Langdale but Group VII (Graig Lwyd) is a close second. Group I from south-west Cornwall occasionally occurs. Charnwood Forest must have produced the few axes of Group XX, but the exact source is unlocated.

Shaft-hole implements are more difficult to source, because no factories have been precisely located. This is true for the abundant picrite (Group XII) which is concentrated close to Hyssington in south-west Shropshire. Group XIV is a camptonite emanating from Griff, near Nuneaton, but any factory site must have been quarried away. Group XVIII, rather rare, is matched by the extensive outcrop of the Whin Sill. The many large axe-hammers (Group XV) resemble the widely outcropping Coniston Grits of the Lake District.

Introduction

The west Midlands, for the purpose of this report, comprise the old counties of Herefordshire, Shropshire, Staffordshire, Warwickshire and Worcestershire, as they were before the Local Government Act 1972. Most of the stone implements from this area had been recorded and given county numbers long before this act came into force in 1974. Since a large proportion of these numbers have already appeared in print, no attempt has been made to renumber the artefacts, or to regroup them under the new counties. The boundaries used, therefore, are those of the old biological Vice-Counties. Until recently the northern part of Staffordshire was not included in the survey (see Shotton 1959, fig 1).

The survey reported here began about 1947 with Miss L F Chitty assiduously seeking out both recorded and unrecorded artefacts and Mr W A Seaby, then Keeper of Archaeology at Birmingham Museum and Art Gallery, compiling the looseleaf catalogue. Since then many other individuals have helped with the catalogue, which we have sought to make as complete as possible. It should be realized that Miss Chitty included in her list all artefacts which had been adequately recorded in archaeological literature. Many of these were successfully located and procured for subsequent petrological examination, but others have not yet been found and probably never will be.

This explains why there are some gaps in the continuity of numbering. Little petrological work was done until the present writer went to the Geological Department of Birmingham University in 1949. From then onwards he has been continuously involved with the sectioning and petrological identification of all west Midland stone implements.

An early result of this work was the discovery of a new and distinctively west Midland group of implements (Gp XII). The first report, therefore, instead of being a summary of all the results so far obtained, was a specialist report on the petrology, source, typology and distribution of Group XII implements (Shotton, *et al* 1951). As work progressed, three more petrological groups were recognized (Gps XIV, XV and XX), and because of their potential importance in other areas these were published in the same way in a second report (Shotton 1959).

At the time these first two reports were published the county numbering system now in general use (Evens *et al* 1962) had not yet been adopted. In the earlier south-western reports (the only other ones published then), the implements were listed in a single series of consecutive numbers, regardless of their county of origin, and whether or not they even came from the south-west (Keiller *et al* 1941; Stone & Wallis 1947; 1951). Miss Chitty and Mr Seaby therefore devised their own system of numbering. The county was indicated by one of the prefixes He, Sh, S St (subsequently amended to St, when the survey was extended to include the whole of Staffordshire), Wa and Wo. Three classes of implement were separated: unperforated 'stone' axes (celts), indicated by the letter 'c'; unperforated flint axes, 'cf'; and a variety of implements with shaft-holes (axe-hammers, battle-axes, maceheads, pebble-hammers, shaft-hole adzes), 'ah'. In this way we have county numbers such as Wa 15/c, Sh 15/cf and Wo 15/ah. Whereas the implements from other areas are listed with consecutive numbers, regardless of typology, the original west Midland system is retained here rather than changing the numbers of implements already published.

The flint axes were not sectioned, but were identified and described on the basis of visual inspection alone. In all other respects they have been recorded as fully as the other 'stone' implements. As might be expected in objects so far from the source material, they are not very numerous.

Table 21 Density of polished stone implements in the West Midlands

County	Unperforated ('c') K m ² per implement	Perforated ('ah') k m ² per implement	Flint ('cf') km ² per implement	All types k m ² per implement
Herefordshire	47	182	189	32
Worcestershire	50	101	200	29
Shropshire	56	43	230	22
Staffordshire	96	57	220	31
Warwickshire	64	106	212	33
All West Midlands counties	60	69	213	28

Notes Implements recorded but now lost are omitted from these statistics. Herefordshire records include numerous flakes from polished axes ('c'); these are omitted from this table. In Staffordshire flint axes ('cf') have been catalogued only in the southern two-thirds of the county.

Indeed, ground stone implements of all types are sparse in this area (Table 21).

Sparsity of artefacts may sometimes be attributed to a shortage of modern collectors or to an unfavourable modern environment. The five counties, taken as a whole, have an abundance of well worked farmland and industrial development, where chance finds are more liable to be made than in well wooded areas. The numbers probably reflect a genuine scarcity of stone implements in the west Midlands, related to a thinly scattered prehistoric population, concentrated in the main along the river valleys, whose terraces give well drained, sandy soils and good water supply,

Petrology

The petrological results are summarized in Table 22. Of all the implements examined 57% have been assigned to fifteen of the established petrological groups, including jadeite. It is clear from Table 22 that the dominant axe groups - Gps I, VI, VII, VIII, IX, XX and XXI - more than half of which are associated with known axe factories, produced few if any shaft-hole implements. Equally the chief axe-hammer and battle-axe groups - Gps XII, XIV

and XV - all first described from the west Midlands, produced few if any axes.

Among the axes Group VI is dominant, as it is over most of England north of the Thames and Severn Estuaries. It accounts for 20% of all the west Midland axes, though there are very few in Herefordshire, in the south-western part of the area. Group VII is next with 15.5%, followed by Groups I (7.5%), VIII (6.7%), XXI (3.4%), XX (2.5%), and IX (2.1%), with Groups X, XIII/XXIII and XVI represented by only one or two axes each. The importance of Welsh axes (Groups VII, VIII, XIII/XXIII and XXI), which together make up 27% of the total, was to be expected in this area. They are particularly prominent in Herefordshire, where most of the Group VIII and Group XXI axes were found. The axe from Vowchurch (He 12/c) cited by Evens *et al* (1962, 217) as attributed to VIIa is now allocated to Group VIII.

The single Group X axe is of interest as a rare Continental import. This axe (Wo 20/c) was originally examined by Stone and Wallis (195 1, no 3 19) and identified as Group VIIa. At that time it was one of three English examples of the sub-group, of which there was also one example from Brittany and one from Jersey. In the fourth south-western report (Evens *et al* 1962, 218)

Table 22 Grouped and ungrouped implements from the west Midlands counties

Petrology	Herefordshire		Shropshire		Staffordshire		Warwickshire		Worcestershire		Total	% of grouped	%I of total
	Unperf	Perf	Unperf	Perf	Unperf	Perf	Unperf	Perf	Unperf	Perf			
I	1	1	5	1	1	—	7	—	4	—	20	8.5	4.8
VI	4	—	16	—	12	—	12	—	4	—	48	20.3	11.6
VII	5	?1	13	—	6	—	5	—	9	—	39	16.5	9.4
VIII	13	—	—	—	2	—	—	—	1	—	16	6.8	3.9
IX	—	—	2	—	1	—	2	—	—	—	5	2.1	1.2
X	—	—	—	—	—	—	—	—	1	—	1	<1	<1
XII	—	2	—	23	—	8	—	2	—	7	42	17.8	10.1
XIII/XXIII	2	—	—	1	—	—	—	—	—	—	3	1.3	<1
XIV	—	—	—	—	—	—	—	7	—	1	10	4.2	2.4
XV	—	1	1	11	2	15	1	2	—	—	33	14.0	8.0
XVI	—	—	—	—	1	—	—	—	—	—	1	<1	<1
XVIII	—	—	—	—	—	1	—	2	—	—	3	1.3	<1
XX	—	—	1	1	1	—	2	—	2	—	7	3.0	1.7
XXI	6	—	2	—	—	—	—	—	—	—	8	3.4	1.9
Jadeite	—	—	—	—	—	—	—	—	1	—	1	<	<1
Ungrouped	36	7	26	36	8	30	9	10	12	4	178	—	42.9
Total	67	12	66	73	34	56	38	23	34	12	415		

this sub-group was given full group status and renumbered as Group X. It was also identified with a newly discovered Breton stone axe group, the Type A dolerite, now known to be the most important stone axe group in France (see Le Roux 1979 for recent discussion). Another very important foreign import is the jadeite axe (Wo 28/c) from Beckford, originally listed as a Gloucestershire find, Glos 64 (Campbell Smith 1972, 411).

Group XX axes, which were first described from the west Midlands (Shotton 1959), are surprisingly uncommon, considering the fact that their source is only a few miles outside the west Midlands in Charnwood Forest, Leicestershire.

The relative abundance of Group XXI axes in Herefordshire is rather surprising, if they really came from the small axe factory at Mynydd Rhiw on the Llyn peninsula.

Among the shaft-hole implements Group XII is dominant with 24% of the total, followed by Groups XV (16.6%) and XIV (5.7%), with Groups I, XVIII and XX having one, two or three implements each. The distribution of the major groups is very clearly related to their source areas. Group XII shows a heavy concentration in Shropshire, close to its source near Hyssington, just over the Welsh Border in Montgomeryshire (Shotton *et al* 1951). Group XV is most abundant in Shropshire and Staffordshire, nearest to its source in the southern part of the Lake District (Shotton 1959); and Group XIV is concentrated in Warwickshire, around its source in the Nuneaton area (Shotton 1959).

Although more than half the implements have been credited to known petrological groups, 38% of the axes and 47% of the shaft-hole implements remain ungrouped. From their petrological nature and style of workmanship most of these probably emanate from small factories, some of which in Herefordshire and Shropshire could be local. In the rest of the area matching outcrops of rock do not exist, and considerable transport is indicated. This raises the possibility of some implements being made from glacial erratics, which are varied and numerous in the west Midlands. If one takes into account that the rock used is a known constituent of the local glacial deposits and that the workmanship on the tool lacks the finesse of the big factories, then on-the-spot manufacture is likely. I would place at least thirteen of the 161 ungrouped implements in this category.

Among the ungrouped implements are eleven quartzite pebble-hammers. These are natural quartzite pebbles, unmodified except by the perforation. Quartzite pebbles are numerous in all parts of the west Midlands except the extreme west, not only in the Triassic Bunter pebble beds, but also in the Pleistocene gravels. Such Bunter pebbles, if carefully chosen, need only to be perforated - though it must be appreciated that this would be a very long and tedious operation if silica sand was the only abrasive available for the drilling.

Finally, the flint axes listed separately at the end of this report may be considered as a percentage of the total number of axes ('stone' plus flint). Taking the whole of the west Midlands, flint axes make up 19.6% of the total, or 24.3% compared with the 'stone' axes only (cf Group VI axes, which make 20% of the latter total). Flint axes are relatively more abundant in Staffordshire, Warwickshire and Worcestershire, in which they are 22.8% of the total number of axes, slightly less abundant in Shropshire (20%), and noticeably less in Herefordshire (14%), furthest from the eastern source areas. Herefordshire once again shows its relatively isolated character in relation to English influences. As far as whole counties are concerned, Herefordshire was definitely the most Welsh part of the west Midlands.

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9 The petrological identification of stone implements from Yorkshire: second report

Patricia Phillips, WA Cummins and Laurence Keen

Abstract

The report covers 901 implements from the pre-1974 county of Yorkshire, of which 725 are axes. The most frequently identified raw material is the Group VI tuff (310 implements). Twenty-two implements have been assigned to a new Group XXVI (a carbonate mudstone of Yorkshire provenance). Following sampling of boulders from glacial tills to the north of Flamborough Head, the hypothesis of local manufacture of implements in dolerite and gabbro from glacial erratics is accepted. The earliest associations of axes in Yorkshire are with Peterborough wares.

Introduction

The first report on Yorkshire stone implement petrology covered 350 axes and other implements (Keen & Radley 1971). Until 1974 the organization of the sectioning programme continued under the direction of Laurence Keen, with identifications being made by Mr E D Evens and Dr F S Wallis. In 1974 Dr Phillips took over the archaeological direction of the work, and Dr Cummins the petrological identifications. A number of the identifications given in the first report have subsequently been revised.

The area covered in this report is the same as in the first report, that is the whole county of Yorkshire as it was before the reorganization of 1974. It includes the new counties of North, South and West Yorkshire, and those parts of the counties of Humberside and Cleveland lying respectively north of the River Humber and south of the River Tees.

The 551 implements whose identifications are reported for the first time here consist of 436 axes, 106 shaft-hole implements, and nine other implements, bringing the Yorkshire total up to 901. It is already well known that the eastern part of Yorkshire contains the greatest concentration of stone axes in the whole country (Cummins 1979, fig 1); the same applies to battle-axes and, to a lesser extent, to axe-hammers (Roe 1979, figs 4, 5). Petrological identification of the available Yorkshire stone implements is still far from complete. The collection in the Yorkshire Museum, for example, contains some 900 implements which have not yet been examined.

In the first report it was recognized that the distribution maps might be biased 'because the main contributors to the sectioning scheme have large collections from East Yorkshire' (Keen & Radley 1971, 29). Since 1971 a conscious effort has been made to section stone implements from the former North and West Ridings of Yorkshire. In spite of this the distribution maps still show a heavy concentration in the eastern part of the Wolds. That this reflects a genuine Neolithic concentration is indicated by modern fieldwalking, which has produced relatively few finds from the western and southern parts of the Wolds but continues to yield numerous axe fragments in the area between Bridlington and Driffeld (Manby 1979, 74). In some parts of the county the low density of finds may be due, at least in part, to unfavourable conditions for collecting. For example in the Vales of York and Pickering, there is a significant cover of post-Neolithic sediment (Manby 1979, 74-7).

Another bias noted in the first report was that 'for reasons of postal economy, the tendency has been to section small implements' (Keen & Radley 1971, 30), so that large axe-hammers and axes, in particular, were under-represented. This has since been rectified, and there is no reason to suppose that the 901 implements identified to date are a biased sample of the collections available for study, either from the point of view of typology (within the field of axes and shaft-hole implements) or of distribution. Whether the collections are a random sample of the prehistoric stone implement population or not would be a much more difficult question to answer.

Petrological groups

In the first report 50% of the 350 implements examined were assigned to six of the established petrological groups. Of these Group VI, with 30% of the total, was by far the most abundant, followed by Groups XVIII (8.3%), I (6%), and VII (5.1%), with Groups III and IX represented by one and two axes respectively. Of the 551 identifications added in the present report 67% have been assigned to twelve petrological groups. Of the groups not recorded in the first report Groups XV and XX were present (two of each) but not recognized, presumably because of lack of

reference sections for comparison. The increased sample size has resulted in the appearance of a few implements belonging to groups not represented in the first 350 examined from Yorkshire. Thus we now have Groups VIII (three), XII (two), XVI (two), and XXIV (one). In addition to these there is a new group of carbonate mudstone implements - Group XXVI - of local origin, which is described here for the first time, but with an important *caveat*.

The increased percentage of implements assigned to petrological groups can be attributed to several factors: 1) the increased proportion of axe-hammers examined has resulted in more Group XVIII identifications; 2) examination of implements from the western part of the Vale of Pickering, in the northern part of the area, has resulted in the discovery of Group XXVI, and the identification of a significant number of implements belonging to this new group; 3) some implements, listed in the first report as ungrouped, have since been identified as belonging to petrological groups.

The first Yorkshire report was the fifth in the series of regional implement petrology reports published by the Prehistoric Society, and the first to be concerned exclusively with an area affected by the Pleistocene glaciations. The authors were therefore faced with the problem of glacial erratics. If the geological source of a stone axe has been determined, the problem is to decide whether it was made at that source and then transported by human agency (trade), or whether the rock was transported from its source by an ice sheet (glacial erratic) and then subsequently made into an axe. For an individual implement this may be difficult, or even impossible (Cummins 1978). Keen and Radley (1971, 26) rightly concluded that axes belonging to Groups I, VII, and IX represented human imports. The ice sheets did not pass through Cornwall, North Wales or Northern Ireland on their way to Yorkshire. Keen and Radley also concluded that the Group VI axes 'by their sheer quantity' were human imports, even though Lake District erratics do occur in Yorkshire (see also Cummins 1978, figs 1 and 2). In contrast to these well known groups, many of the less common rock types among the ungrouped implements may well represent local manufacture from glacial erratics.

Group XVIII

This is the second most abundant group in Yorkshire, and presents special problems. Its ultimate geological source lies in the Whin Sill of northern England, but boulders of such dolerite are the commonest glacial erratics along the Yorkshire coast. The distribution of Group XVIII axe-hammers, down the Yorkshire and Lincolnshire coasts and into East Anglia (Roe 1979, fig 6), is very similar to that of the dolerite-rich North Sea Drift (Harmer 1928, 90 and p15). From the distribution pattern alone it is not possible to distinguish between local manufacture based on glacial erratics on the one hand, and coastwise trade of factory-produced implements based on a northern outcrop on the other.

The similarity of many of the Group XVIII axe-hammers, both in dimensions and typology - for instance the shallow cupping along the upper surface, dipping towards the shaft-hole - suggests that they may be factory products. This typological observation, however, does not

enable a distinction to be drawn between the products of a factory based on the outcrop and those of a factory based on glacial erratics. In the absence of actual working sites such a distinction can only be made on the basis of petrological evidence. With this in mind, rock samples were collected from fifteen dolerite boulders in Thornwick Bay (TA 239721), just north of Flamborough Head, where the cliffs consist of chalk overlain by boulder clay. Dolerite boulders of various sizes are abundant here, and stand out black against the white chalk of the foreshore. Thin sections of these dolerites yielded twelve Group XVIII identifications. Of the other three one was ophitic gabbro, and two were dolerites which could not be classified as belonging to Group XVIII. This preliminary result shows, without any doubt, that the Group XVIII axe-hammers and other implements *could* have been made locally from glacial erratics.

Since the Group XVIII implements themselves may have been produced either at outcrop or from glacial erratics, the ungrouped dolerite and gabbros may hold a solution to the problem. Let us suppose, for the sake of argument, that all the 162 dolerite and gabbro implements so far identified from Yorkshire, including Group XVIII, were made locally from glacial erratics. Then, on the basis of the Thornwick Bay sample, we might have expected about 128 Group XVIII implements and 32 ungrouped ones. The actual numbers are 115 of Group XVIII, and 47 ungrouped. The petrological data are thus consistent with the hypothesis that all the Group XVIII implements, together with all the ungrouped dolerites and gabbros, were manufactured locally from glacial erratics. It would, of course, be quite impossible to prove that an individual Group XVIII implement had not been brought all the way from some northern outcrop of the Whin Sill, and equally impossible to prove that it had.

During the Neolithic period flint boulders from the beaches around Flamborough Head were exploited for the manufacture of a variety of tools, including axes, on a very considerable scale (Manby 1979, 71). It seems unlikely that the plentiful supply of dolerite boulders on these same beaches would have been ignored.

New petrological group: Group XXVI (carbonate mudstone)

This new group is based on the petrological examination of 22 implements (nineteen axes, including one roughout, two chisels and a shaft-hole adze) from North Yorkshire. Their distribution is centred on the parish of Nunnington, in the western part of the Vale of York, along the pass between the Hambleton Hills to the north and the Howardian Hills to the south. The northernmost and southernmost parts of the distribution are connected to the centre by the River Derwent and its tributaries.

Petrology

This group presents a varied appearance, both in the hand specimen and in thin section. The original sediment was a calcite mud in which shell fragments and detrital minerals were present in small amounts. During diagenesis this sediment was more or less enriched in iron, resulting in the formation of siderite and pyrite. Some of the axes are made of almost unaltered *calcite mudstone*; some of *sideritic*

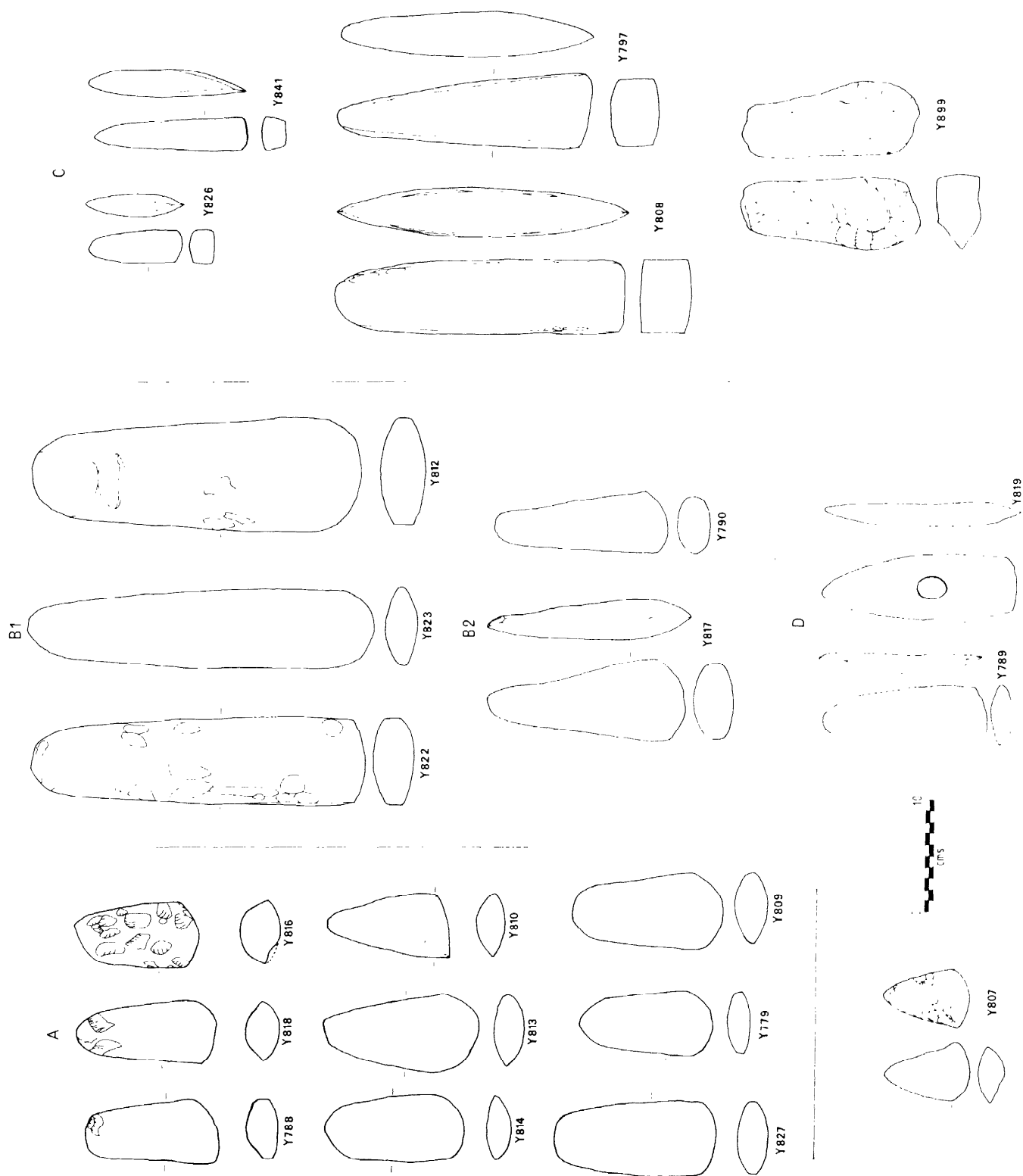


Fig 6 Group XXVI: a representative selection of implements, illustrating their typology

carbonate mudstone; and some of pyritous carbonate mudstone.

The carbonate in the least altered rocks forms a very fine matrix in which the grain size of individual crystals is generally less than 0.005 mm. Staining with alizarin red-S and potassium ferricyanide (Dickson 1966) indicates that the carbonate mineral in this matrix is ferroan calcite. In the more altered rocks the grain size of the matrix is generally around 0.01 mm, with scattered coarser patches, and the carbonate crystals commonly show a yellow colour suggestive of siderite. The high iron content of these rocks is further suggested by the deep red weathering of some axes (Y 816, 818). In thin section this red colour is seen to derive from a limonitic crust about 1 mm thick, beneath which a less intense limonite staining permeates the whole body of the rock. Staining has no effect on this type of rock (Y 818), and it therefore seems likely that most of the carbonate is siderite. (It should perhaps be pointed out that dolomite (non-ferroan) does not stain either.)

Fossils - mainly molluscan shell fragments and foraminifera - have been noted in 9 of the 23 examples of this group. They are most common in some of the little altered, calcite mudstones (Y 788, 789, 790, 841), but even in these they amount to no more than 2-3% of the volume of the rock.

Detrital quartz can be seen in most of the sections, but seldom exceeds 1% of the volume of the rock (5% in Y 813). The grain size is generally less than 0.05 mm but may reach 0.1 mm. The coarser quartz grains are found in some of the least altered calcite mudstones (Y 788, 789, 841). Flakes of muscovite can also be seen.

Pyrite is present in most sections, though in some it has been oxidized to limonite. The individual crystals are very small, generally less than 0.005 mm, but they commonly occur in framboidal aggregates. Pyrite also occurs as a replacement of shell fragments. The amount of pyrite in these rocks ranges from the merest trace up to 20% or more (Y 809, 812, 819), and even in one example (Y 822) to over 50% by volume.

The texture of these rocks is variable. A few (Y 797, 808) show lamination due to the parallel orientation of shell fragments. Some (Y 790, 813, 841) show a patchy, disorganized texture, probably resulting from bioturbation. Those with sufficient pyrite (Y 807, 809, 812, 819, 822, 823) have a rather irregular, wavy lamination, revealed by variations in the abundance of the pyrite.

The surface appearance of implements belonging to this group depends on their mineral composition and the weathering they have suffered. Axes made of the little altered, calcite mudstone are commonly etched, because of the solubility of calcite in acid rainwater, though traces of the original surface may be preserved. The shell fragments look black against the light-brown patina of the matrix. Axes of the sideritic carbonate mudstone, if weathered in an oxidizing environment, develop a deep red patina. Axes of the pyritous carbonate mudstone often retain their original surface polish and striations. The colour of such axes is rather patchy, in light and dark shades of grey-brown. A distinctive feature of such axes is that they are commonly crossed by hairline cracks in a polygonal pattern. If the original polish is lost, they may weather to various shades of grey or black.

In the British Museum there is an assemblage of stone axes from North Yorkshire, which have cracked up into

polygonal fragments since they were collected. These axes, originally thought to be shale, are now known to be made of black pyritic limestone, and to be suffering from 'fossil disease' - the oxidation in a museum environment of specimens containing pyrite or marcasite (Oddy 1977). These are likely to belong to Group XXVI, and further investigations are in progress.

Source

The most likely source for Group XXVI is in the Lias of Bilsdale, Bransdale, Farndale or Rosedale, through which tributary rivers flow southwards into the River Derwent, off the Cleveland Hills. Concretions of carbonate mudstone, known locally as 'doggers', are common throughout the Yorkshire Lias. These concretions may be either calcareous or sideritic, and may contain detrital quartz, clay minerals, shell fragments, and pyrite (Hallam 1967; Hemingway 1974). Similar rocks may also occur in marine beds in the overlying Middle Jurassic, siderite mudstone in the Eller Beck Formation, and calcite micrite in the Blowgill Member (Hemingway 1974, 194, 196). In the Upper Jurassic calcite mudstone (micrite) occurs in the Coral Rag Member of the Corallian (Wright 1972; Hemingway 1974), which outcrops in the vicinity of Nunnington. Specimens collected for comparison, however, differed in some important respects from the Group XXVI calcite mudstones. Fossils were more abundant and of different types, and staining showed that the carbonate was normal (non-ferroan) calcite. The search for the source of Group XXVI is not yet completed.

Typology

Group XXVI implements were worked by chipping before grinding, as is indicated by the roughout (Y 899), and by the flake scars remaining on eight of the finished implements. Group XXVI implements were carefully worked, and most axes are thin in section, while a number have neatly squared-off edges. One small axe could represent a late stage in use, and is similar to many reworked Group VI axes. The asymmetrical line of the blade on eight of the axes is also similar to the wear of many Group VI axes.

The type most frequently represented (Fig 6, Type A) is a squat axe with relatively little narrowing at the butt, and a slim section with faceted or rounded edges. Typical measurements are 100 x 55 x 20 mm. This type is represented by nine axes (Y 779, 788, 809, 810, 813, 814, 816, 818, and 827).

The next most frequent type (Fig 6, Type B) is slimmer and more elongated than the first type. Type B1 axes are similar to the Group VI Cumbrian axes (Manby 1979), being about 250 mm long, slim in section, with faceted edges (Y 812, 822, and 823). Type B2 axes are shorter by about 100 mm and have relatively narrow butts and faceted edges (Y 790 and 817).

A third type (Fig 6, Type C) is represented by only four finished implements, but may also include the roughout (Y 899). Type C implements are characterized by almost rectangular cross-sections, very like a Group XX axe from Horncastle (Cummins & Moore 1973, fig 12, no 80). Two of these implements (Y 797 and 808) are large axes, over 200 mm long. The other two smaller implements (Y 826 and 841) may have been chisels. One of the large axes (Y 808) is roughly rectangular in outline, and has a cutting

edge at both ends. The other large axe (Y 797) narrows towards the butt.

The remaining two implements (Y 789 and 819) are almost identical in size and shape (Fig 6, Type D), and are clearly adzes. The only significant difference between them is that one (Y 789) is unperforated, while the other (Y 819) has an hourglass perforation and would be classified as a shaft-hole adze.

Interpretation

It has become increasingly clear that these implements were probably made locally sometime during the last century. The evidence may be summarized as follows:

1) All but one of them come from Crambe, Ness, Nunnington, Pilmor, Rosedale and neighbouring villages in North Yorkshire and from a single collection (the British Museum). That same collection also contains many other implements of similar petrological character which have not been sectioned. In the British Museum collection, well over 75% of the implements from this part of Yorkshire are of Group XXVI rock.

2) Many of these implements are of highly atypical forms.

3) Of implements from the same area in other collections, nearly half belong to Group VI, nearly a third are ungrouped, and the remainder belong to Groups I, VII, XV and XVIII. This is roughly what one might expect from any other part of Yorkshire.

4) The rock is too soft to have been of much practical use in stone axes and similar implements.

5) The relative softness of the rock makes it easy to work into fake implements.

6) The rock weathers easily, being soluble in acid rainwater, and is therefore unlikely to have been preserved in the excellent condition of many of the specimens, if they were genuinely prehistoric.

Additional attributions to petrological groups

Group I

Products: 16 axes: Y 352, 367, 408, 454, 477, 496, 508, 572, 680, 733, 784, 800, 847; 871, 883, 893

Group VI

Products: 202 implements, including two (Y 568, 681) which are near Group VI

Axes: Y 359b, 362-4, 366, 368, 375, 384, 392, 396, 401, 404-5, 409, 414, 426-7, 446-7, 449, 451-2, 456, 459, 461-2, 464-8, 493, 500, 505-6, 509-11, 522-4, 526, 528-31, 534, 536-7, 549-52, 554, 565, 573, 583, 591, 593-4, 601, 611-2, 615, 626, 631-2, 634-8, 641, 643-5, 647-8, 654-61, 674, 681-2, 685, 687-9, 692, 695, 699, 710-2, 715-7, 722-4, 726, 729-30, 732, 735, 737, 739, 743-6, 748-9, 757-9, 775-6, 778, 795, 806, 829, 831, 835, 843, 845, 852, 856, 860, 863-4, 867-70, 873-4, 880, 891, 894, 896-8; Reworked axes: Y 393, 403, 407, 437, 448, 475, 479, 507, 517, 535, 538, 546, 556-7, 560, 562, 566-8, 594, 651-2, 683, 713, 718-g, 738, 740, 742, 750, 804, 832, 850-l; Cumbrian axes: Y 389, 492, 520, 604, 780, 857-8, 877; Adze: Y 406, 876; Hone/chisel: Y 574, 786; Flakes: Y 548, 587-90, 691, 696, 697

Group VII

Products: 21 implements

Axes: Y 356, 410, 430, 474, 533, 571, 581, 586, 598, 607, 672, 684, 720, 727, 844, 879; Reworked axes: Y 433, 686, 878; Fabricator: Y 640; Flake: Y 596

Group VIII

Products: 3 axes: Y 673, 824, 887

Group IX

Products; 6 axes: Y 473, 558, 649, 854, 859, 861

Group XII

Products: 2 battle-axes: Y 592, 609

Group XV

Products: 13 implements

Axes: Y 379, 394, 463, 676, 825, 885; Axe-hammers: Y 390, 521, 669, 698, 706, 828; Pebble-hammer: Y 881

Group XVI

Products: 2 axes: Y 353, 597

Group XVIII

Products: 70 implements, including 7 which are near Group XVIII

Axes: Y 355, 402, 420, 428, 435-6, 443, 457, 471, 478, 494, 497, 544, 561, 576-7, 582, 605, 608, 614, 625, 627, 630, 679, 714, 721, 728, 747, 755, 760, 882, 892; Axe-hammers: Y 372, 377, 378 (near), 380, 388, 415, 418-9, 421-2, 434, 490-1, 515, 516 (near), 665-6, 754, 777, 872; Battle-axes: Y 425, 495, 803, 833 (near); Maceheads: Y 445, 482 (near); Pebble-hammers: Y 503 (near), 618, 619 (near), 708; Shaft-hole axe/adze: Y 413, 501, 663, 766 (near), 801 (?); Cupped pebble: Y 483, 707; Hammer: Y 653

Group XX

Products: 8 implements including one (Y 450) which is near Group XX

Axes: Y 356, 585, 671, 677, 805, 886; Reworked axe: Y 450; Macehead Y 901

Group XXIV

Products: 1 axe: Y 411

Group XXVI

Products; 22 implements

Axes: Y 779, 788-90, 797, 807-10, 812-4, 816-8, 822-3, 827; Shaft-hole adze: Y 819; Hone/chisel: Y 826, 841; Roughout: Y 899

Archaeological associations

Only 28 of the 551 additional implements listed in this report come from significant archaeological contexts. Nearly half of these belong to Group VI (Table 26).

Flakes and fragments of Group VI axes have been recovered from several Neolithic sites excavated by C and E Grantham, in the Boynton-Rudston area of the Yorkshire Wolds. Their associations are with Peterbor-

Table 23 Summary of grouped and ungrouped products from Yorkshire

	Grouped	Ungrouped	Not shown	Totals
First report (Keen & Radley 1971)	202	143	5	350
revised This paper	366	185	0	551
Totals	568	328	5	901

ough Ware, Grooved Ware, and Beaker pottery (Manby 1974; 1975; 1979). They consist mainly of waste material - flakes, broken blades and butts - disposed in rubbish pits together with the potsherds, and therefore dating to the same period. Two Group VI axe fragments were also found on the Middle Bronze Age hillfort at Thwing, excavated by T G Manby since 1973. These axe fragments are presumed to date from a sparse Neolithic-Early Bronze Age use of the site (Manby, pers comm). The Group VI axes found in round barrows are rarely securely linked with the burial event, owing to lack of clear excavation or publication. However the fact that one Group VI axe (Y 831) found with a cremation was itself burnt, implies that it was involved in the burial event (Evans 1897, 96). The same may also apply to the other Group VI axes and a hone (Y 786, 804, 832) found in round barrows. Taking all the evidence together, it can be seen that Group VI axes in Yorkshire were in circulation from Peterborough Ware times, or earlier; and they may have continued in use up to the time of the Early Bronze Age.

Two broken Group VII axes (Y 581,684) were found in the Grantham's excavations of Carnaby Top Site 22, at Boynton (Manby 1979, 79), in association with Bell Beaker pottery. The earliest association for Group VII in Yorkshire is that of the axe found with Peterborough pottery, in a barrow at North Deighton (Keen & Radley 1971, 271).

All the other petrologically grouped implements with associations come from round barrows and, apart from the butt of a Group I axe, they are all shaft-hole implements. The Group I specimen (Y 572) is from the ditch of a round barrow, an association which is of very little chronological value.

A Group XII battle-axe (Y 609; Roe 1979, fig 2) from Doncaster was associated with an urn burial, a cup, a covering vessel, and 'brass'.

Two Group XV implements have possible burial associations. One, a battle-axe (Y 828), was associated with an unburnt body (Greenwell 1877, fig 31). The other, an axe-hammer (Y 698), is said to have been found with a dug-out canoe, an association which could have been very interesting, in view of the general lack of data on axe-hammer chronology (Smith 1979; Roe 1979). Unfortunately there is no trace of the canoe, nor are there any contemporary records of its discovery.

Two Group XVIII implements come from burials. One, a macehead (Y 482), identified as near Group XVIII, was in an overhanging rim urn in a secondary burial. The other, a battle-axe (Y 803; Pierpoint & Phillips 1978, fig 1), was in an inverted urn, with a polished knife and a barbed-and-tanged arrowhead.

General remarks

Yorkshire stone axes and their petrology have been discussed in three recent publications (Manby 1979; Pierpoint 1980; Hodder & Lane 1982). We have already quoted from Manby's work, which includes sections on both flint axe production and the possible mechanisms for disseminating Group VI axes. Pierpoint looks at the criteria of quality and size which governed the deposition of shaft-hole implements in Yorkshire graves. Hodder uses both petrological and size data in looking at the countrywide patterns of distribution from axe factories. The second period of Yorkshire axe thin-sectioning has thus coincided with a revival of interest in the use of petrological data as a basis for interpretation and archaeological models, which is the ultimate purpose of the analyses.

Table 24 Products from grouped rocks from Yorkshire (Keen & Radley 1971 and this paper combined)

Group/near Group	Axe	Adze	a-h	b-a	Mace	Others	Totals
I	36	—	—	—	—	—	36
III	1	—	—	—	—	—	1
VI	295	4	—	—	—	11	310
VII	40	—	—	—	—	2	42
VIII	3	—	—	—	—	—	3
IX	8	—	—	—	—	—	8
XII	—	—	—	2	—	—	2
XV	7	—	7	—	—	2	16
XVI	2	—	—	—	—	—	2
XVIII	64	5	24	8	7	7	115
X X	9	—	—	—	1	—	10
XXIV	1	—	—	—	—	—	1
XXVI	18	1	—	—	—	3	22
Totals	484	10	31	10	8	25	568

Table 25 Products from ungrouped rocks from Yorkshire (Keen & Radley 1971 and this paper combined)

Rock	A x e	Adze	a-h	b-a	Mace	Others	Totals
Amphibolite	3	1	1	1	—	—	6
Dolerite	1 8	2	8	6	1	5	40
Gabbro	2	—	8	2	—	—	7
Greenstone/ epidiorite	6 3	—	—	—	2	3	68
Sandstone	1 6	2	3	3	—	6	30
Tuff/ash	6 9	—	—	—	—	2	71
Greywacke	1 4	—	5	2	2	4	27
Limestone	7	1	—	—	—	—	8
Quartzite	5	—	1	3	6	2	17
Others and unknown	4 4	1	4	5	2	3	5 9
Totals	2 4 1	7	25	22	13	25	333

Table 26 Stone implements from Yorkshire with archaeological associations

No	Implement	Petrology	Context
a) Axes found in excavation of Neolithic-Bronze Age settlements			
The following come from excavation by the Grantham brothers at Boynton or Rudstone, near Driffield.			
581	broken axe	VII	with Beaker material
584	complete axe	coarse lithic sandstone	as 581., in pit 1
587	flake	VI	with Peterborough ware
588	flake	VI	one of 4 flakes, 2 chips and a 'coe', found with Peterborough ware
589	flake	VI	one of 3 flakes, found with Peterborough ware
590	flake	VI	one of 6 flakes, found with Grooved ware, Brit Archaeol Rep 9,22
593	but of axe	VI	in Pit 1 with Grooved ware, Brit Archaeol Rep 9, 62, fig 26.2
684	axe blade	VII	with plain pottery and flint and no 581
691	flake	VI	} with European and All Over Corded Beakers, and cobbles
692	blade	VI	
693	axe but	spotted state	
b) Excavations by T Manby at Thwing hillfort			
611	axe fragment	VI	
612	axe fragment	VI	
613	rechipped axe	coarse tuff	
c) Axes found in round barrows			
481	pebble hammer	olivine dolerite	in round barrow
482	macehead	near XVIII	in overhanging rim urn of secondary burial
572	axe butt	I	barrow ditch
609	battle-axe VS	XII	With urn burial and cup, and covering vessel, and 'brass'
698	axe-hammer	XV	with dug-out canoe
803	battle-axe	XVIII	possibly with urn, definitely with polished knife and barbed-and-tanged arrowhead, <i>Yorkshire Archaeol j</i> , 50, 1978
786	hone	VI	in barrow
794	damaged shaft-hole implement	greywacke	in barrow
796	small axe-hammer	dolerite	in barrow XXI
798	battle-axe	lithic sandstone	with burnt body in barrow
804	rechipped axe	VI	in barrow VII
828	axe-hammer	XV	with unburnt body
831	burnt complete axe	VI	in barrow with burnt body
832	axe fragment-halved and rechipped	VI	in barrow with burnt body

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10 The petrological identification of stone implements from Lancashire and Cheshire

G R Coope, D J Robinson and F E S Roe

Abstract

This is the first report for the area. A total of 195 implements were examined, mainly axes and axe-hammers. The majority of the axes proved to be made from Group VI, while a large proportion of the axe-hammers were found to be from Group XV. Other grouped materials, represented in small quantities, are I, VII, IX, XIII, XIV and XVIII. 25% of the implements were made from varied ungrouped materials.

Two battle-axes and one axe-hammer are from associated, though poorly recorded contexts. At the time of writing (1983) there was only very scanty evidence for the Bronze Age date for the mauls from Alderley Edge.

Introduction

The area covered by this report consists broadly of the old counties of Lancashire and Cheshire. Implements from Lancashire North-of-the-Sands (now in Cumbria) have not, however, been included since this area is geographically quite separate from the rest of Lancashire. Since the work began the two counties have been affected by extensive boundary changes, including the creation of the two new counties of Greater Manchester and Merseyside within the area, and these changes have created potential problems with the county numbering system for the implements. The solution adopted here is to retain the original numbering according to the old counties, but to note the new counties in the lists of implements whenever applicable.

Work on the petrology of stone implements from Lancashire and Cheshire was initiated over 30 years ago. The early history of the project is rather obscure, though it is known that some of the records were made by Mr F G Hudson of Lancaster Museum, and others by Dr J W Jackson of Manchester Museum. During the last ten years the archaeological side of the work has been carried out first by Mr C N Moore and Mr D J Robinson of the Grosvenor Museum, Chester, and more recently by Mrs F E S Roe.

Most of the petrological work since 1952 has been carried out by Dr G R Coope, who worked initially in conjunction with Mr Frank Willett. A small number of the earlier identifications were made by Dr F S Wallis and

Professor F W Shotton, and some of Dr Wallis's results were published in south-western reports (Stone & Wallis 1951; Evens *et al* 1962). In recent years thin sections have been prepared by Mr John Blount at Imperial College, London, and by the late Mr Ron Holland, in the Department of Earth Sciences at Oxford.

Geographically the two counties are quite distinct. Cheshire consists mainly of flat, glacial deposits, heavily forested into historical times, and bordered on the south by a band of poorly drained country which has always been an obstacle to communication. Similarly the north of the county is distinguished by the marshes of the river Mersey and its estuary. Prehistoric activity appears to have avoided these areas; the majority of finds are from the Pennine foothills to the east, the lighter soils of the Wirral Peninsula, and the sandstone ridge which runs from Runcorn in the north to the Welsh foothills in the south-west of the county.

By contrast Lancashire is dominated by the Pennines. To the north they limit the coastal plain to a few miles; further south they are penetrated deeply by the rivers Ribble and Mersey, leaving areas of low-lying, fertile land in the Fylde and the Lancashire Plain to the east of Southport. Parts of this low-lying land, especially around the Ribble estuary and the Lancashire Plain, have yielded few stone implements, and these areas were probably avoided in prehistoric times because of their poorly drained soils. Another sparsely populated area is the Forest of Bowland, high ground rising to 561 m and probably unsuited to prehistoric occupation. Elsewhere the distribution of artefacts seems to be fairly even, with a small concentration of axe-hammers in and around Lancaster.

Petrology

This report is based on the examination of 195 implements from 28 museums (including libraries etc) and a small number of private collections. No less than three-quarters of the implements listed in the catalogue have been identified as belonging to established petrological groups. The data are summarized in Table 27, which indicates that the majority of implements belong to Groups VI and XV, both of which originate in the Lake District. Group VI,

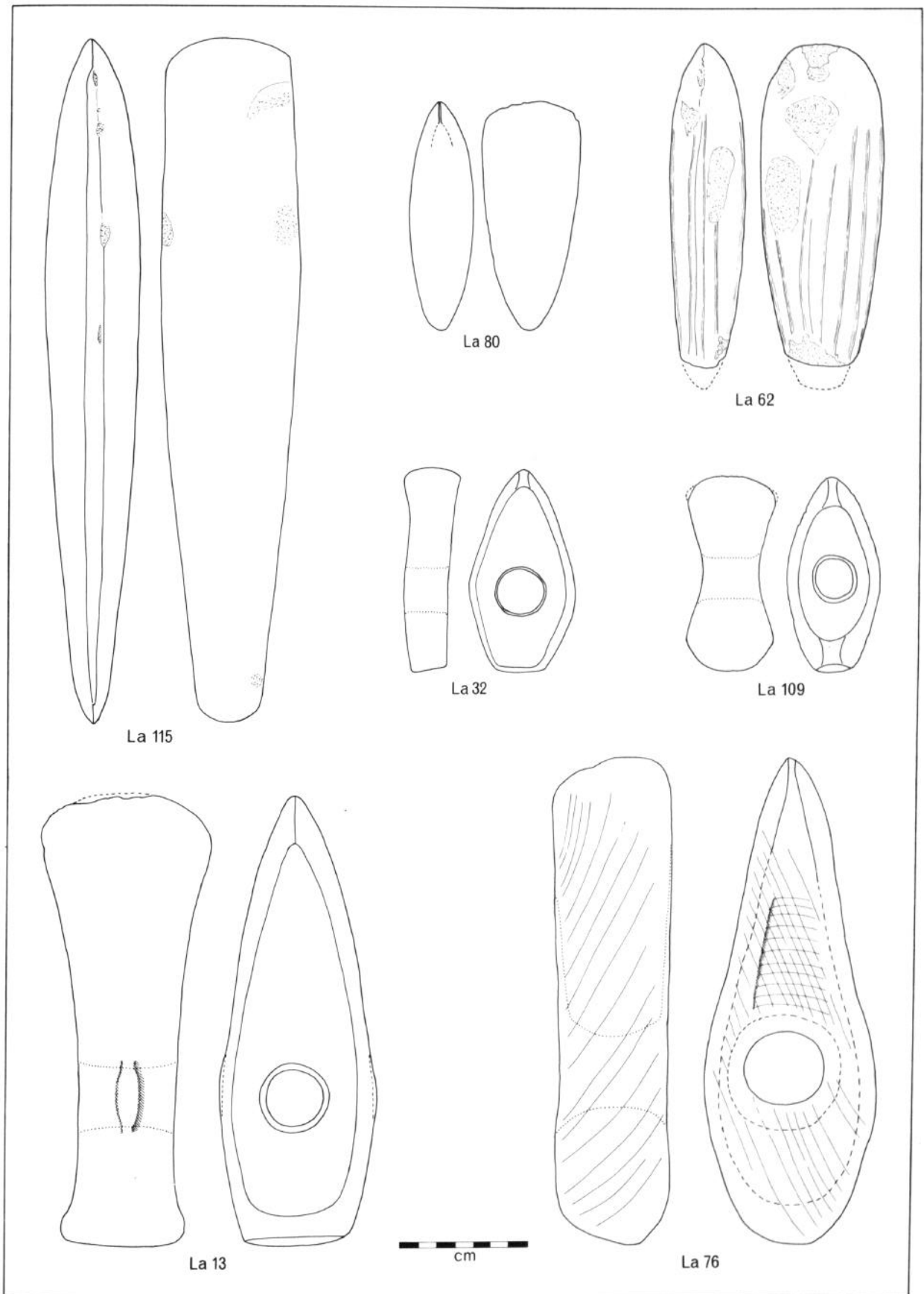


Fig 7 Lancashire and Cheshire implements: La 115, Group VI axe from river Ribble near Sawley; La 80, Group I axe from Red Lees, Cliviger; La 62, Group VI faceted axe from Moston; La 32, Group XVIII battle-axe from Brightmet, Bolton; La 109, Group XVIII battle-axe from Oakenrod, Rochdale; La 13, Group XIV axe-hammer from Deane, Bolton; La 76, Brathay flagstone axe-hammer from Oxcliffe (scale 1:3)

Table 27 Products of grouped rocks from Lancashire and Cheshire

Group	Axes	Roughours	B-A	A-H	M-H	Sh-adzes	P-H	Others	Totals
I	3	—	—	—	—	—	—	—	3
VI	39	2	—	—	—	1	—	—	42
VI?	2	—	—	—	—	—	—	—	2
VII	7	—	—	—	—	—	—	—	7
IX	1	—	—	—	—	—	—	—	1
XIII	1	—	—	—	—	—	—	—	1
XIV	—	—	—	1	—	—	—	—	1
XV	2	—	1	50	—	2	6	4	65
XV?	1	—	—	11	—	3	1	2	18
XVIII	—	—	3	3	—	—	—	—	6
	56	2	4	65	—	6	7	6	146

with 22.5% of the total number of sectioned implements, is dominant among the axes (57% of all axes), while Group XV, with 42.5% of the total, is dominant among the shaft-hole implements (72.7%). Following these are Group VII axes from north Wales, which are found mainly in the southern part of the area, and Group XVIII axe-hammers and battle-axes, originating in northern England, which occur mainly in Lancashire. Implements of more distant origin - Groups I from Cornwall, IX from Northern Ireland, XIII from south Wales and XIV from the English Midlands - are thinly represented in the area.

Grouped implements

Group I: three axes: Ch 54; La 59, 80.

Group VI (including near Gp VI): 41 axes: Ch 8, 9, 15, 16, 20, 26, 36, 45, 53, 58; La 10, 16 to 22, 24, 26, 27, 29, 35, 53, 60, 62, 67, 70, 87, 94, 95, 99, 107, 113, 114, 115, 118, 128 to 131; 2 roughouts: La 39, 123; and one shaft-hole adze: La 23.

More than half the Group VI axes have the distinctive flattened sides so often noted in this group (Fig 7, La 115). Three have one face ground into facets. Two of these, from Moston (Fig 7, La 62) and Hyde Road, Manchester (La 129) make a broadly similar pair, each with one face ground into seven facets. The third faceted axe, from Delph Reservoir, Egerton (La 94), a very fine example with an overall length of 377 mm, has one face divided into five ground facets.

A dozen of these Group VI axes are large, well made specimens, over 200 mm long, of the variety regarded as Cumbrian axes. Miss Fell (1964, 40) has already drawn attention to the majority of them (Ch 9; La 10, 18, 18, 35, 39 (this one is a roughout), 94, 118, 131). Three more may be added to her list: one 271 mm long, from near Sawley (Fig 7, La 115), and two 'small Cumbrian axes from Alderley Edge (Ch 45) and Clitheroe (La 53), both over 200 mm in length.

Group VII: seven medium-sized axes: Ch 17, 18, 46, 49, 50, 65; La 97.

Group IX: one small, polished axe: La 112.

Group XIII: one medium-sized axe: Ch 11.

Group XIV: one axe-hammer: La 13.

This implement, from Deane, near Bolton, is a finely made Class II axe-hammer, expanded at both ends, and notable for the presence of small, oval protuberances or

'ears' on either side opposite the shaft-hole (Fig 7). This feature has been noticed before, when comparisons were made with two similarly ornamented Group XIV axe-hammers from Loughton, Bucks (Bu 27), and Foleshill, West Midlands (Wa 5/ah; Roe 1974, 11). It is satisfactory to be able to record that this third axe-hammer from Deane is made of the same material.

Group XV (including near Gp XV): 3 axes: Ch 33, 48; La 58; one battle-axe: Ch 5; 61 axe-hammers: Ch 3, 6, 13, 21, 22, 23, 28, 29, 42, 43, 44, 55, 56, 57, 62; La 4 to 9, 12, 33, 34, 36, 41 to 44, 47, 48, 49, 51, 52, 55, 56, 58, 72 to 75, 77, 79, 81, 82, 84, 89, 90, 92, 93, 96, 101 to 104, 108, 111, 116, 117, 122, 127, 132; 5 shaft-hole adzes: Ch 25, 41; La 85, 91, 98; 7 pebble-hammers: Ch 27; La 46, 63, 65, 69, 86, 100; 2 discs: La 14, 71; a perforated hammer: Ch 7; a net sinker (?): Ch 38; a spindle whorl (?): La 15; and an unclassified object with two opposed cup marks: Ch 40.

The 61 axe-hammers can be examined as a group. They are divided between the two main classes (Roe 1979, 29), with 63% belonging to Class I (convex forms) and the remainder to Class II (concave forms). Not all the axe-hammers could be fully classified for various reasons, but of the undamaged and fully recorded examples Class I can be further divided into 15 with the greatest depth at the butt end (Class Ia; Fig 8, La 102) and 14 with the greatest depth at the blade end (Class Ib; Fig 8, La 108). Dividing Class II axe-hammers in the same way gives 4 in Class IIa (never a very abundant category) and 13 in Class IIb. Class II forms are relatively more abundant (37%) among these Group XV axe-hammers than among British axe-hammers in general (18.5%). This may be a local characteristic, and perhaps also one related to the raw material being used.

The single Group XV battle-axe (Fig 8, Ch 5) is a graceless object, ill proportioned and perhaps illustrative of the fact that those utilizing Lake District greywacke were not in line with the cultural outlook that produced elegant battle-axes in other areas.

The seven pebble-hammers are all simple, rounded artefacts with hourglass holes, and they were probably made from randomly collected pebbles.

Group XVIII: 3 axe-hammers: Ch 51; La 66, 83; 3 battle-axes: La 32, 64, 109.

The axe-hammers comprise one of Class Ia (La 66) and two of Class IIb (Ch 51, La 83). The three battle-axes are all individual. The one from Northenden (La 64) is an

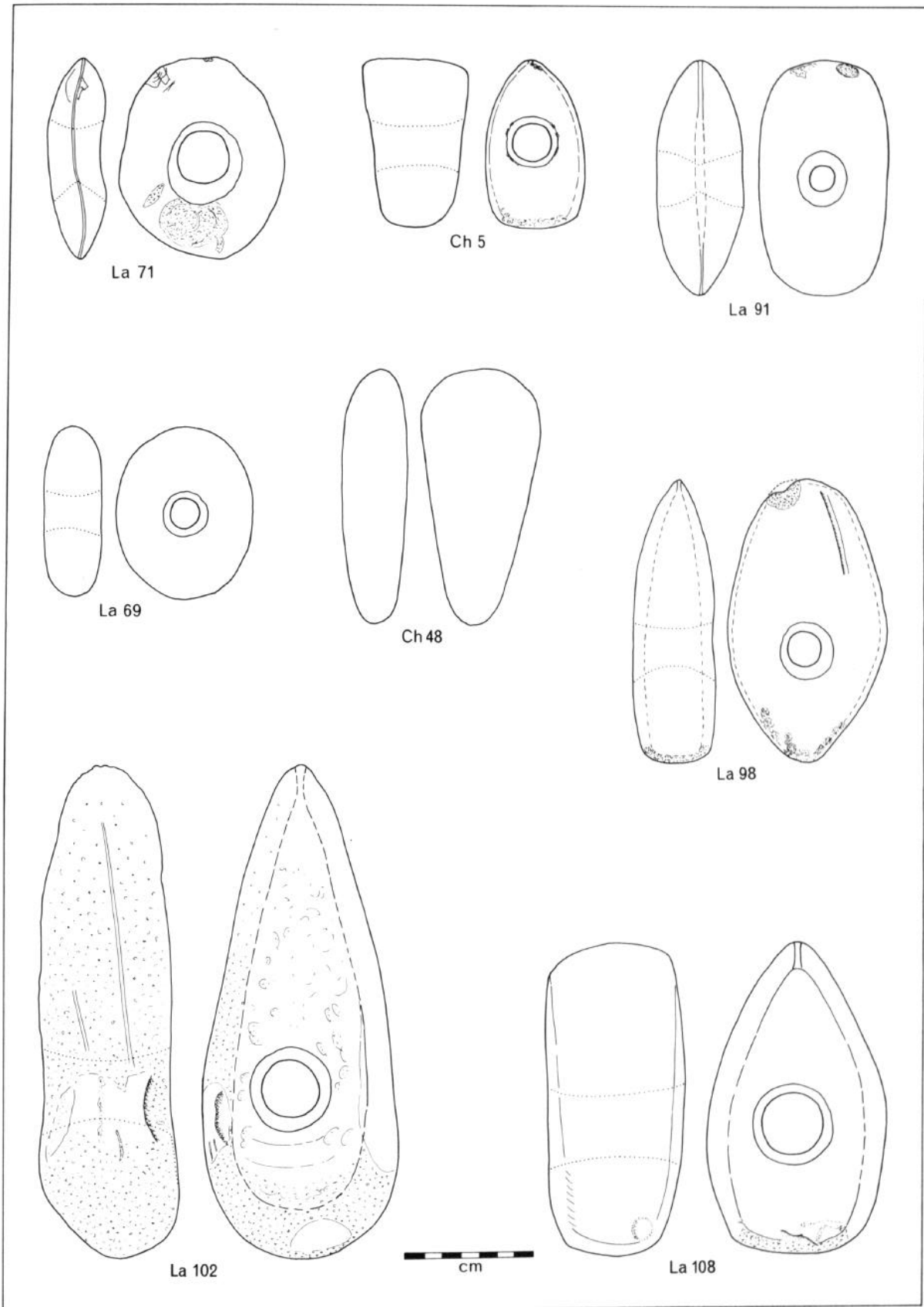


Fig 8 Group XV implements from Lancashire and Cheshire: La 71, disc from Stakes Farm, Bowland Forest; Ch 5, battle-axe from Norbury/Bickley boundary; La 91, shaft-hole adze from Ince-in-Makerfield; La 69, pebble-hammer from Inglewhite; Ch 48, axe from Barnston; La 98, shaft-hole adze from Pilling; La 102, axe-hammer from Hudsbrook Farm, Cloughton (probably made from a cobble); La 108, axe-hammer from Milnrow, Rochdale (scale 1:3)

Table 28 Products of ungrouped rocks from Lancashire and Cheshire

Rock	Axes	B-A	A-H	M-H	Sh-adzes	P-H	Mauls	Others	Totals
<i>Tuff etc</i>									
Ash	3	—	—	—	—	—	—	1	4
Tuff	1	—	1	—	—	—	—	—	2 } 6
<i>Lava</i>									
Andesite	—	—	—	—	—	—	3	—	3 } 3
<i>Intrusive igneous</i>									
Dolerite	4	—	2	—	—	—	—	—	6
Intrusive igneous	1	—	—	—	—	—	—	—	1 } 7
<i>Altered basic igneous intrusive</i>									
Greenstone	1	1	—	—	—	—	—	—	2
Altered dolerite	1	—	—	—	—	—	—	—	1 } 3
<i>Metamorphic</i>									
Amphibolite	2	—	—	—	—	—	—	—	2
Jade	1	—	—	—	—	—	—	—	1
Tremolite schist	—	—	—	—	—	—	—	1	1 } 5
Altered killas	—	—	—	—	—	—	—	1	1
<i>Sedimentary</i>									
Flint	1	—	—	—	—	—	—	—	1
Quartzite	—	—	—	—	1	2	—	—	3
Greywacke	—	—	3	—	—	1?	6	2	12
Siltstone	1	—	2	—	—	—	—	1	4 } 25
Ashy sediment	—	1	—	—	—	—	—	—	1
Brathay flagstone	—	—	3	—	—	—	—	1	4
	16	2	11	—	1	3	9	7	49

early, Woodhenge group example (Roe 1966, 205), while that from Brightmet, Bolton (Fig 7, La 32) is slightly expanded, though somewhat irregular in shape. It has been assigned to Stage II (Roe 1966, 204). The third battle-axe, from Oakenrod, Rochdale (Fig 7, La 109) is also an Intermediate variety, but belongs to Stage IV, and is noticeably more expanded with a differently shaped butt.

Ungrouped implements

The 49 ungrouped implements are made from a varied range of rock types, as summarized in Table 28. A group of three axe-hammers (La 40, 76, 125) and a disc (Ch 47) are made of medium to coarse micaceous siltstone with fine laminae of an opaque mineral. The rock shows a weak cleavage in places and is not unlike the Brathay Flags of the southern Lake District (Fig 7, La 76).

Some of the other ungrouped implements are likely to have been imported, for example the tremolite schist (which is near Group IVa) and the greenstone, both of which may have come from Cornwall; the jade is likely to be a Continental import, and the flint probably came from southern or eastern England. The remainder, though they may have been imported, could equally well have been made from glacial erratics.

Geological considerations

Taking the grouped and ungrouped implements together, it is clear that at least two-thirds of the total originated in the Lake District, the nearest source of good quality stone at outcrop. In the case of Group VI axes there is abundant evidence of axe factories on screes below the rock outcrops and elsewhere in their vicinity (Houlder 1979), and there can be no reasonable doubt that these axes were imported from such a source. There is however no same certainty about the Group XV implements. These were manufactured by pecking, rather than flaking (Fig 9, La 51), and this will have left no tangible evidence in the field (Coope 1979, 100). With these, as with the ungrouped implements, we are left with the possibility of local manufacture from glacial erratics, as an alternative to factory production close to the outcrops. In this connection it should be noted that Lake District erratics are abundant throughout Lancashire and Cheshire (Wray 1948, fig 25).

Recent work by Dr M B Fenton (1984) has shown that cobbles of greywacke and other materials are better suited for working into shaft-hole implements than rock obtained from outcrops or screes. Not only are cobbles less likely to fracture but, if they are carefully selected for shape, the implements can be finished with a minimum of pecking. Some of the more irregularly shaped axe-hammers, such as La 74 from Longridge and La 102 from

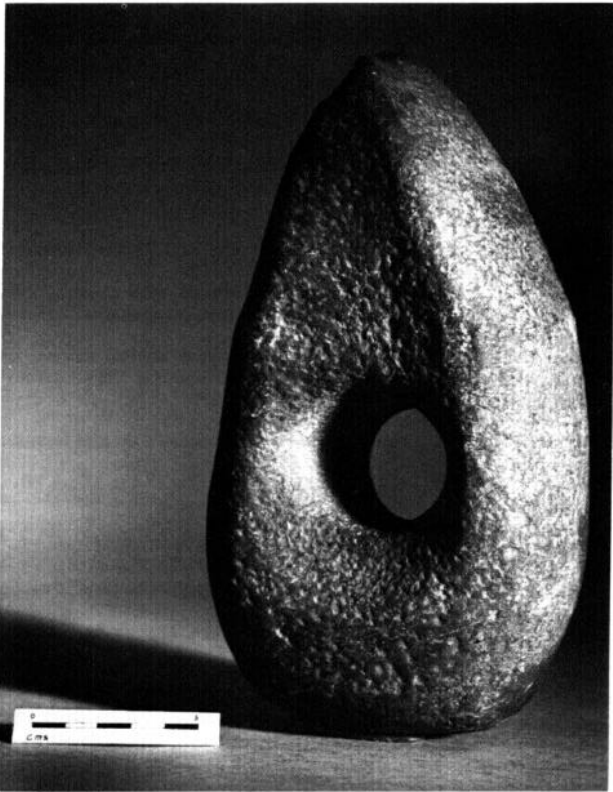


Fig 9 La 51, axe-hammer from Nether Kellet, showing pecking technique used for working greywacke into shape (photograph P Narracott)

Claughton (Fig 8) certainly look as though they have been shaped from cobbles, and others may have been made by the same technique. There seem to be positive advantages in using carefully selected cobbles for the manufacture of such implements, and Fenton (1984, 241) has suggested that greywacke cobbles were utilized to a much greater extent than has previously been supposed, not only in Scotland, but also in the areas in which Group XV implements are found.

Archaeological associations and dating

None of the axes listed in this report comes from a meaningful context, and only three of the shaft-hole implements have any archaeological associations - an axe-hammer and two battle-axes.

The Group XV axe-hammer from Milnrow, Rochdale (Fig 8, La 108) is important because of the general paucity of associated dating evidence for axe-hammers. The implement was found during excavations for farm outbuildings in 1899, together with an urn containing a cremation (Platt 1900). The urn was broken up and thrown away. Subsequent investigation of the site showed that the finds had probably come from a barrow, and the farmer, on being questioned, stated that 'the urn was of the usual, plain type of cinerary urn previously found in this district . . . and measured approximately 8 inches in

diameter and in height, and the axe-hammer was found in the proximity of the urn' (Platt 1900, 96).

This is somewhat slender evidence for asserting that this Group XV axe-hammer was associated with a Collared urn of some kind, but the point to be made here is that the information available is considerably better than that for any other axe-hammer from supposedly associated contexts. The only other comparable association is from a cist at East Bank, Burradon, Northumberland, where a small, Class IIb axe-hammer was found in 1859 in some kind of juxtaposition with an 'urn' of unknown type and a cremation (McLauchlan 1864, 51; Bruce 1880, 23 and p1 I, 4).

A Group XVIII battle-axe from Brightmet, Bolton (La 32) has a somewhat unsatisfactory association. The museum records state that it was found with a pygmy cup during building operations in 1948. An ungrouped battle-axe from Winwick (La 11) comes from a barrow, where it was found in a cinerary urn with a cremation and a tanged bronze blade (Robson 1860, 190 and p1 vii; Davey & Forster 1975, no 21).

Nine mauls or mining tools are included in this report - terms which are used for stone hammers with a groove round the centre to take a handle. They are a more important tool type than their numbers in the catalogue of implements might suggest, and there are many more as yet unsectioned in the Grosvenor Museum, Chester and in Manchester Museum. Of those examined, three are made of andesite (Ch 2, 37,68) and six of greywacke (Ch 59,60, 61, 63, 64, 67). All, excepting one whose findspot is unknown, come from the Alderley Edge area; two (Ch 61, 64) are even from the copper mines themselves, though without substantiating information.

The dating evidence for this class of implement is somewhat unsatisfactory at present. Mining tools of a similar type are known to have been used in Europe in some of the earliest recorded copper mines (Jovanovic 1979, 106). Similarly in England grooved hammers could date back at least to the Beaker period (Greenwell & Rolleston 1877, 239). At Alderley there is no direct evidence for a prehistoric date for the use of the mauls, some of which were found in waste material filling old surface workings (Roeder 1901, 81). There are records of mining at Alderley during the 18th and 19th centuries (Roeder 1901, 107-10), and there is a possibility that the mauls may have been in use during this relatively recent period (Alan Tyler, pers comm).

Acknowledgments

The results assessed in this paper would not have been possible without the collaboration of all the museums that have provided implements for thin-sectioning. The following have given particular assistance: Mr J D Blundell (Lancashire County Museum Service), Mr F G Dimes (Geological Museum, London), Mr B J N Edwards (Lancaster Record Office), Mr J Menneer (Powell Museum, Wigan), Mr A B Page (Rochdale Museum), Mr S H Penney (Lancaster Museum), Dr A J N W Prag (The Manchester Museum), Miss K Sykes (Harris Museum and Art Gallery, Preston), Mrs A P Thomas (Museum and Art Gallery, Bolton), Miss E Vigeon (Art Gallery and Museum, Salford), and Mrs E Wood (Grundy House, Blackpool). In addition thanks are due to Dr W A

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11 The petrological identification of stone implements from the Isle of Man

G R Coope and L S Garrad

Abstract

A start has been made on analysing the stone axeheads held in the collections of the Manx Museum, Douglas, Isle of Man. Visual inspection suggests that some 60% belong to Group VI, and analysis has confirmed the presence of stone from this source. Of greater interest is the discovery that the distinctive roughened-butt axeheads of the Ronaldsway Neolithic culture peculiar to the Isle of Man were frequently made from insular stone. The source has been tentatively identified as being in the Ballapaddag area, on the boundary between the parishes of Braddan and Santon, and has been named Group XXV.

Introduction

The Isle of Man, situated in the middle of the Irish Sea, has an area of 570 km². The nearest point on the mainland is Burrow Head in Wigtownshire, 30 km to the north. St Bees Head in Cumbria and Strangford Lough in County Down are almost equidistant, 50 km to the east and west respectively. Anglesey is 70 km away to the south. Three of the most prolific British stone axe factories are situated close to the encircling shore lines (Fig 10), and the possibility of marine trade with one or more of these sources gives a special interest to the study of Manx stone axes.

During the Neolithic period the Isle of Man gave rise to a local culture, the Ronaldsway Culture, characterized among other things by a distinctive type of stone axe with roughened and truncated butt (Bruce *et al* 1947, 146-8). This would suggest local manufacture of axes on the island, and the possibility of locating an axe factory by petrological investigation.

Petrological examination of Manx stone axes began with a small number (Manx I-7) submitted to Dr F W Wallis at a time when such work was still almost restricted to the south-west of England. These included four axes from the important Ronaldsway Neolithic house excavation (Bruce *et al* 1947). The identifications, listed in the fourth south-western report (Evens *et al* 1962), included two Group VI axes, a clear pointer to the trade with Cumbria, across the sea to the east, confirmed by the results now presented. A second period of activity began in 1976 when the Trustees of the Manx Museum agreed that damaged

axes, and axe fragments and flakes from the Cowley collection (Garrad 1978a) should be made available for petrological examination.

This report is based on the examination of 40 stone implements. There are more than 150 others in the Manx Museum, which have not yet been made available for thin-sectioning. The sample so far examined is somewhat biased towards the Peel area in the western part of the island, where Cowley did most of his collecting (Garrad 1978a, 41). A further 20 or so damaged pieces are likely to be available for examination in the near future.

Eleven of the axes sectioned belong to two of the established petrological groups: ten to Group VI, and one to Group VII. There is also one of jadeite. No special comment on these is necessary, and their distribution is shown on a map (Fig 10). Visual examination of the whole collection in the Manx Museum confirms the dominance of Group VI axes, but also suggests that contrary to the evidence so far available from thin-sectioning, Group IX may be present in some quantity (Garrad 1978b, 169).

Seven of the sectioned axes, including two from the Ronaldsway house excavation, form the basis for a new group, XXV, whose source is on the island, and which is described and discussed below. Visual inspection of the collection confirms the importance of Group XXV, particularly among the axes characteristic of the Ronaldsway culture (Garrad 1978b, 167-8).

Among the 170 or so localized axes recorded before 31 March 1985 from the Isle of Man, of which all but a handful are preserved in its national museum in Douglas, some 60% appear visually to be Group VI. There seems to be no appreciable difference in distribution between Group VI and Group VII axe-heads, and the two occurred together on several sites, thus suggesting that they are at least partly contemporary. In the opinion of one of the authors (LSG), the evidence from fieldwalking would seem to suggest that Group VI axes were already being used by the makers of the peculiarly Manx 'tanged missile heads' in flint. Since these are accompanied by 'Bann flakes', they are generally assigned to the Mesolithic, and the assemblage is now referred to as the Manx 'heavy-blade mesolithic' (Woodman 1978). Despite considerable fieldwalking and trial excavation during the last five years, no recognizable habitation site has been found.

Recent fieldwork makes it possible to say that the

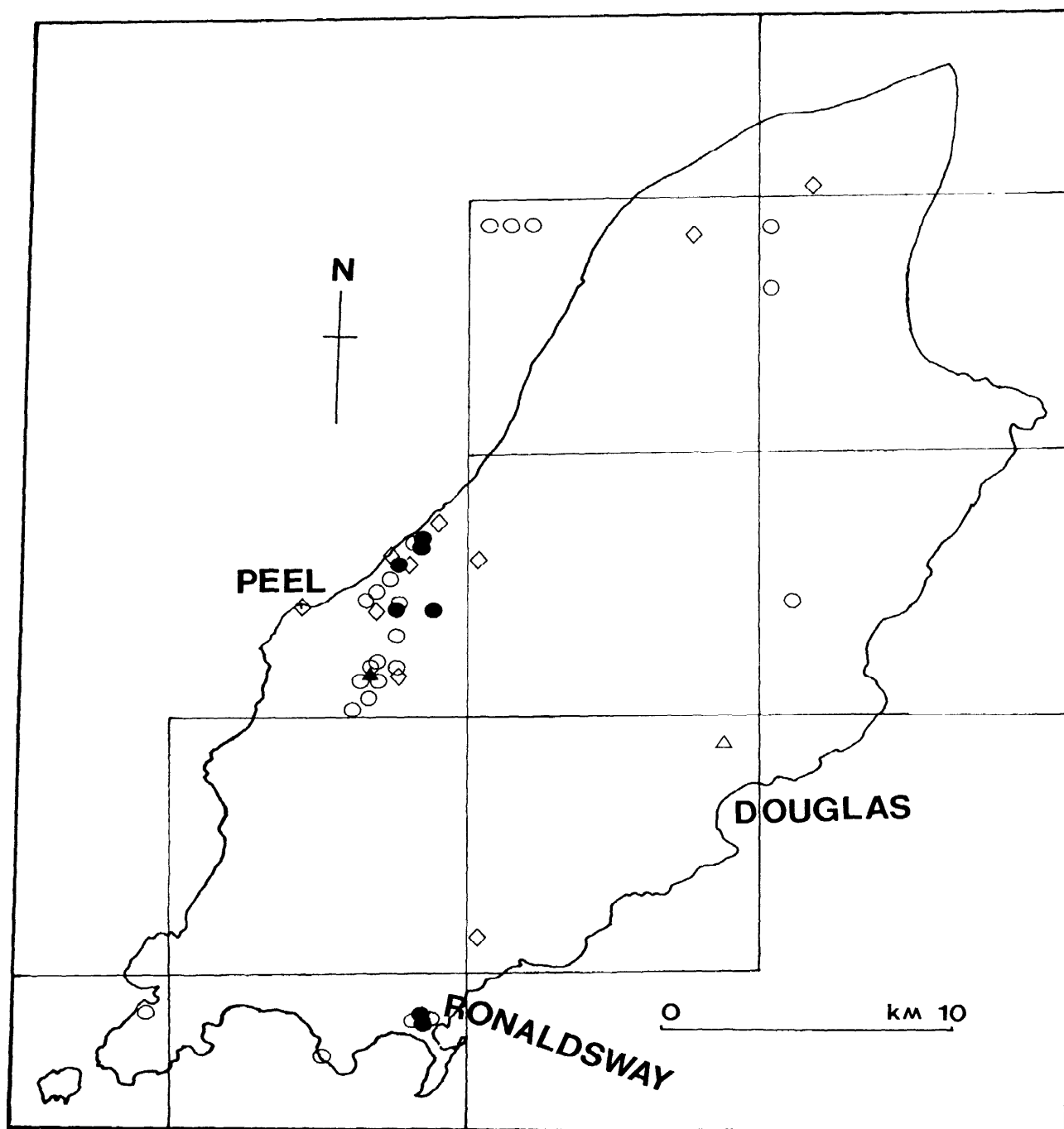


Fig 10 Distribution of analysed axes in the Isle of Man: solid circles = Group XXV; open diamonds = Group VI; solid triangle = Group VII; open triangle = jadeite; open circles = other rocks

discrepancy in find numbers between Andreas/Bride/Jurby (42 finds from 18 393 acres/7443 ha) or German/Patrick (64 finds from 12 312 acres/4983 ha) on the one hand and Braddan/Marown (none from 18 038 acres/7300

ha) or Onchan/Santon (13 finds from 12 129 acres/4908 ha) on the other is based on a real difference in the distribution of traces of past activity, and is not merely a reflection of variation in modern fieldwork.

New petrological group Group XXV: Hydrothermally altered quartz diorite or tonalite

Description

In hand specimen this rock presents a speckled green appearance caused by numerous idiomorphic or rounded ferro-magnesian minerals that occur as phenocrysts (or more probably xenocrysts) up to 8 mm in diameter, set in a grey mottled matrix of clouded feldspar and finer dark minerals. The general appearance is remarkably homogeneous, with the phenocrysts making up about 30% of the rock.

Under a hand lens (x 10) many of the phenocrysts are seen to be zoned, and appear to have been partially corroded before the crystallization of the magma. Round some of the phenocrysts there are thin black rims, sometimes resembling remnant patches partly corroded away. Fine, more or less aligned cracks occur up to 1 mm across, filled with mineral matter.

Under the microscope the phenocrysts are seen to be largely of secondary amphibole replacing augite, which still survives towards the centre of some large crystals. Hornblende outgrowths occur round some of the phenocrysts. The matrix contains some primary hornblende, flakes of green biotite, and some chlorite. The plagioclase feldspars are sericitized. Interstitial quartz occurs in small amounts, often as clear triangular infillings between the euhedral feldspars. Magnetite-ilmenite skeletons are frequent, and in some slides there is often a dusting of iron ore within the phenocrysts. Granular sphene is almost ubiquitous as an alteration product.

Source

There are two igneous intrusions on the Isle of Man, which contain rock resembling Group XXV. The Oatland Complex (SC 3272), about 6 km south-west of Douglas, contains basic igneous rocks that resemble Group XXV; and a small intrusion at Ballapaddag (SC 3475), about 4 km northeast of Oatland, is entirely made of similar rock. It must be pointed out, however, that the axes are made of a rock in which the feldspars are more highly altered than in any sample we have examined from these intrusions. It is always a possibility that the axes were made out of the glacial debris that litter the area round the intrusions; but the petrology of the implements is so consistent that the axe makers would have had to be remarkably selective.

Typology

The seven implements listed as belonging to Group XXV (Manx 2, 3, 11, 13, 18, 22, and 25) are all axes or axe fragments. So also are nineteen others which appear, on macroscopic examination, to be made of the same rock. Furthermore all these axes have oval cross-sections and squared off butts; and all are pecked at the butt end and have polished blades, with a clear line of demarcation between the two surfaces. All, in other words, belong to the distinctive type of 'roughened and truncated butt axes' described and illustrated by Bruce *et al* (1947, 146-7 and pl XVIII), and recognized by them as part of their Ronaldsway Culture.

Archaeological associations

Two of the sectioned Group XXV axes (Manx 2, 3) and

four of those which have been attributed to the group on macroscopic inspection come from the Ronaldsway house excavation, the type site for the Ronaldsway Culture (Bruce *et al* 1947). There is thus a clear cultural association for Group XXV axes. The dating of this culture has, however, produced problems (Moffat 1978, 203-15). Radiocarbon dates have been obtained from two Ronaldsway Culture burial sites. At Ballaharra (Moffat 1978, 209) a large pit containing the cremated remains of 36 individuals, with four broken arrowheads and a miniature pottery vessel, gave radiocarbon dates of 2275 ± 67 bc (BM 768) and 2283 ± 59 bc (BM 769). At Killeaba (Moffat 1978, 207-9) two timber-lined pits containing cremated bones gave dates of 2431 ± 58 bc (BM 839) and 2350 ± 52 bc (BM 840). In one of these pits a Ronaldsway Class A jar was inserted 'above the edge of the timber framing'. The date of 4310 ± 72 bc (BM 838) obtained from the burning pit at Killeaba is irrelevant; it contained no Ronaldsway Culture objects itself, and its spatial association should not necessarily be interpreted in terms of chronological equivalence. Thus, in summary, it may be concluded that the Ronaldsway Culture was flourishing during the period 2400 to 2200 bc. The full chronological range of the Ronaldsway Culture cannot be estimated on the currently available dates, and the period during which Group XXV axes were in use - which was not necessarily the same - is equally uncertain.

Distribution

The distribution of Group XXV axes is apparently concentrated in two areas: one south-west of Douglas around the source outcrops, and the other around and south of Peel where, as noted above, Cowley did most of his collecting. The map (Fig 10) shows only those implements which have been thin-sectioned.

Axes of truncated and roughened butt type in the northern part of the island, not yet sectioned, in general do not appear to be made of Group XXV rock (cf Garrad 1978b, fig 11, 1). A recently found exception (IOMMM 81-46) from a 'rubbish dump' excavated at Ballacottier, Andreas, seems to have been reshaped from a much bigger implement; it is now only some 55 mm long but 45 mm broad, and scarcely merits the description of 'axe'. A similar reshaping can be seen in another axe (IOMMM 598), now 100 mm long and 65 mm across the cutting edge. This one is from the 'hollow beside the Ballacurry keeill', now usually called Cronk Mwyllin, an area where aerial photographs by Prof Barri Jones have provided abundant traces of human activity. The evidence of these implements suggests that this rock was valued but hard to obtain in the north of the island.

Conclusion

This must be viewed as an interim report, in view of the large proportion of Manx stone axes which have not yet been examined under the microscope. Further work may reveal other Manx sources for stone axe manufacture. Several axes made of camptonite (Manx 34, 37, 43, and 44) may prove to have a source within the island; the same may apply to the two axes made of a very similar highly altered diorite (Manx 14 and 20). Also, of course, it should not be forgotten that some axes were probably made from glacial erratics.

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12 The petrological identification of stone implements from Cumbria

C I Fell and R V Davis

Abstract

This paper is the first published review of the petrology and archaeology of stone implements from the north-west English Highland Zone. Early developments in the field are briefly described, leading to a discussion of petrological and archaeological associations. A total of 388 implements and other specimens have been examined, the bulk of which consist of rocks of local origin. Several different tool types are represented in the corpus, including rough-out axes, axes, adzes, chisels and shaft-hole implements. Grouped and ungrouped material is considered, with Group VI being dominant. A new group, Group XXXIV, is proposed, this being a leucogabbroic rock from Carrock Fell. The paper concludes that from the study sample Cumbria was entirely self-sufficient in stone implement production, probably producing a surplus for trade or exchange outside the immediate vicinity.

Introduction

Before the formation of the county of Cumbria in 1974 the area under consideration comprised the old counties of Cumberland and Westmorland with Lancashire North of the Sands, to which the Sedburgh district of Yorkshire was added to form the new County.

Among the first implements from Cumbria to be petrologically examined was one of five roughouts (West 1) from the working site found by Professor D M S Watson near Stake Pass (Warren 1921, 198). These were identified by Dr F S Wallis in the course of his work in south-west England and included in his newly established Group VI, which was therefore considered to emanate from a Stake Pass factory (Keiller *et al* 1941, 58-60). A few years later two specimens from Walney Island (Lane 1-2) were sectioned and assigned to the same Group (Stone & Wallis 1947, 47-55; Cross 1948, 68-71). When extensive stone axe workings were found by Brian Bunch in Great Langdale in 1947 Dr Wallis readily agreed to do the petrology (Bunch & Fell 1949, 1-20). The material he examined also proved to be Group VI, which was thereafter attributed to the Great Langdale axe factories as a whole (Stone & Wallis 1951, 115-9).

Some early identifications were also done by the

Geological Survey and Museum, including a flake (no county number) from North End, Walney Island, described as a porcellanite similar to that from Tievebulliagh Hill, Cushendall (Group IX) (Cross 1947, 67-8, fig 3, S19) and two axes (Cu 174-5) made of a tuff similar to Group VI from Eskdale and Miterdale (Fell 1951, S-9). After 1961, when the Sub-Committee of the South-Western Group of Museums and Art Galleries confined their attentions largely to their own area, some implements were identified by Professor F W Shotton of the University of Birmingham.

Systematic work on Cumbrian stone implements began in 1953 when Mr W A Bulmer, honorary curator of the Blackgate Museum, Newcastle upon Tyne, began to list and draw the axes in various northern museums, for the CBA Implement Petrology Committee. Unfortunately his efforts were not accompanied by any petrological identifications, and systematic petrological work was delayed for another twenty years, until Mr R V Davis took it on in 1974.

It should be understood that only a small proportion of the stone implements found in Cumbria have as yet been examined in thin section. Priority was given to those implements in local museums unlikely to be of Group VI, in the hope that this would reveal connections with other areas. As is shown below, this it singularly failed to do. Museums outside Cumbria, especially the British Museum and the Ashmolean Museum, Oxford, and private collections are virtually untouched. Within Cumbria itself there are large collections of roughouts and flakes from Great Langdale and other working sites in the Lake District in Carlisle and Kendal Museums, and smaller collections at Barrow-in-Furness and Whitehaven Museums. In the case of Barrow-in-Furness Museum the collection remains unexamined chiefly because much of it is missing. When Mr F Barnes, librarian and curator there, listed its stone axes for Mr W Bulmer in 1953, there were 32 polished and seven roughout axes, of which 33 (nearly 85%) were described as of 'greenstone', the term he used for the tuffs of the Borrowdale Volcanic Series. Axe-hammers and other stone implements at Barrow were not then listed.

The list of identifications at the end of this report is in three parts. The first comprises implements examined by Dr F S Wallis, these being listed with their old

Table 29 Products from grouped and ungrouped material from Cumbria

Petrology	Axe	Roughout	Flake	Axe-hammer	Battle-axe	Shaft-hole adze	Pebble-hammer/Macehead	Other	Total
<i>Grouped material including unsectioned 'Group VI' artefacts</i>									
VI	143	70	20	3	—	—	1	3	240
VIII	—	1	1	—	—	—	—	—	2
IX	1	—	—	—	—	—	—	—	1
XI	—	—	5	—	—	—	—	—	5
XV	—	—	—	21	—	2	2	4	29
XVIII	1	—	—	2	1	2	—	—	6
XX	1	—	—	—	—	—	—	—	1
XXXIV	3	—	—	2	—	—	—	—	5
Totals	149	71	26	28	1	4	3	7	289
<i>Ungrouped material</i>									
Jadeite	1	—	—	—	—	—	—	—	1
Picrite	—	—	—	1	—	—	—	—	1
Gabbro	5	—	—	1	1	—	2	2	11
Diorite	—	—	—	1	—	—	—	—	1
Basalt	—	—	—	—	—	—	1	—	1
Altered dolerite	—	—	—	—	—	—	1	1	2
Epidiorite/ greenstone	—	—	—	—	1	—	—	2	3
Ash	—	—	—	—	1	—	1	1	3
Tuff	7	8	5	1	—	1	—	2	24
Rhyolite	—	1	—	—	—	—	—	—	1
Andesite	3	—	—	—	—	1	—	2	6
Hornfels	—	—	—	1	—	—	—	—	1
Quartzite	—	—	—	—	—	—	1	—	1
Grit	—	—	—	3	—	1	—	—	4
Sandstone	1	—	—	7	—	2	4	3	17
Greywacke	—	—	—	7	—	—	2	1	10
Mudstone	—	—	—	1	—	—	—	1	2
Limestone	—	—	—	1	—	—	—	—	1
Not sectioned	—	—	—	2	—	—	5	2	9
Totals	17	9	5	26	3	5	17	17	99
Totals (grouped and ungrouped)	166	80	31	54	4	9	20	24	388

Cumberland (Cumb), Lancashire (Lanc) and Westmorland (West) numbers as in the Fourth Report (Evens *et al* 1962). The second part includes 186 more recent microscopic identifications with new Cumbria (CU) numbers. And finally there are a further 151 implements which on macroscopic examination resemble Group VI but which have not been thin-sectioned. These have also been allocated Cumbria numbers.

Petrology

A total of 388 implements and other specimens are listed at the end of this report. Of these 74.5% have been assigned to eight of the established petrological groups, including the new group XXXIV which is described below. The unsectioned implements (39% of the total) attributed to Group VI are counted under that Group in Tables 29 and 30, where the data are summarized.

It is evident that the bulk of the rocks used for making stone implements in Cumbria are of local origin. Much of

the stone axe material so far examined has come from the various known working sites in the central hills of the Lake District. These pieces include roughout axes, adzes and chisels, with trimming flakes and a few rock samples. Together they represent but a fraction of the prolific collections made by visitors to the axe factory sites and removed without record. Therefore if on further examination some of those attributed to Group VI prove not to be so, this will not affect the general discussion significantly. Any such implements are likely to be of closely related tuffs from the Borrowdale Volcanic Series (Moseley 1983), and as such to originate from the same general area.

In the overall totals of implements examined Group VI is dominant, with 61.5%, followed by Group XV, with 7.5%. Other groups, namely VIII, IX, XI, XVIII, XX and XXXIV, are represented by only a few items each. Of these, Groups VIII and XI occur only at working sites, and their numbers are insignificant. If finished axes alone (omitting roughouts, flakes and perforated implements) are considered, the dominance of Group VI is even more

Table 30 Proportion of unperforated:perforated implements in Cumbria

Axes	No.	%
Group VI axes/adzes	143	59
Group VI roughouts	70	29
Group XXXIV axes	3	1
Ungrouped volcanic rock axes	10	4
Ungrouped volcanic rock roughouts	9	4
Others	7	3
Totals	242	100%
<i>Perforated implements, excluding unsectioned implements</i>		
Group VI	4	5.0
Group XV	25	31.25
Group XVIII	5	6.25
Group XXXIV	2	2.5
Ungrouped sedimentary rocks	29	36.25
Ungrouped coarse-grained igneous rocks	9	11.25
Ungrouped volcanic rocks	6	7.5
Totals	80	100%

pronounced, with 84.5% of the total. The only other grouped axes are three of Group XXXIV and one each of Groups IX, XVIII and XX. If, on the other hand, we consider shaft-hole implements (axe-hammers, battle-axes, maceheads, pebble-hammers and shaft-hole adzes), we find Group XV dominant, with 39.5% of the total. Even the quartz-dolerite of the Whin Sill, not far distant, is only sparsely represented by a few Group XVIII specimens among those examined to date, and although Group VI is also represented amongst the shaft-hole implements, its products in this field are clearly anomalous. There are two Group XXXIV perforated implements.

Thus Groups VI and XV together account for nearly three-quarters of all the finished implements. Only four objects - two of Group IX, one of Group XX, and one of jadeite (Cu 185) can with any certainty be shown to have been imported into the area. Even the origin of the Group XX specimen (Lane 3) is open to debate in the light of recent work (Davis 1984). The implication is that even if a system of trade or exchange did in fact exist in the 3rd and early 2nd millennia bc, stone implements from other sources were not required, and therefore not acquired, in any numbers in Cumbria. Flint would no doubt have been an acceptable import for fashioning finer cutting tools and projectiles. However even these types of artefact were also occasionally made of tuff from Mesolithic times onwards (Davies 1963, fig 1, 3; Barnes 1970; Cherry 1973, fig 3, 27; Cherry *et al* 1984, 1985; Clough, *in litt*, 1985).

Grouped rocks

Group VI axes were produced in extensive working sites in the central Lake District, the best known of which are in the Great Langdale area. Many sites have been found since the Stake Pass site was identified (Warren 1921, 198; Keiller *et al* 1941), and there has been a small excavation at one of them (Clough 1973). It became clear in 1959 that tuffs petrologically indistinguishable from Group VI were to be found in other parts of the district, especially around

Scafell Pike, Brown Tongue and Glaramara (Plint 1962; Fell 1964; Houlder 1979), and notes on further flaking sites, including Yeastyrigg Crags in upper Eskdale, were also published by the late R G Plint (1978). There is some petrological variation among the axes identified as Group VI (Mayoh 1976; 1977; Davis 1984), and also among the rocks which occur at the various known factory sites.

Detailed geological mapping of the area around the Great Langdale sites by Hartley (1932) and Oliver (1961) has now been partly revised by Houlder (1979), and further archaeological survey work has recently been initiated by the National Trust (inf P Claris). Work is still in progress on these rocks, and on implements identified as tuff but not placed in any of the established petrological groups (see also Groups VIII and XI below). The results of these researches will be published when available. In the meantime, however, a more general attribution of Group VI to a 'Lake District' rather than to a more specific 'Great Langdale' origin now seems preferable.

The four Group VI shaft-hole implements identified in this report, three axe-hammers (Cu 42, 131, 164) and one pebble-hammer (Cu 137), are of special interest. Out of some 1600 Group VI implements known, only three other shaft-hole implements have been recorded: a cushion mace from near Windsor (Berk 55; Evens *et al* 1972, fig 5); part of a similar implement from Great Hale (Li 267; Cummins & Moore 1973, fig 5); and a perforated axe from Cargill (Per 15; Ritchie & Scott, ch 14).

Group VIII clearly has one source among the Ordovician volcanic rocks of south Wales, though no axe factory has yet been identified (Cummins 1979, fig 4). However, the waste material at the Pike o'stickle axe factory, while predominantly Group VI, has yielded one flake (West 4) and one roughout (West 8) of Group VIII. This led Stone and Wallis (1951, 122) to postulate a Lake District origin for Group VIII axes, a suggestion more recently confirmed by Davis (1984). This conclusion now seems more likely than the alternative one, that the flake and roughout were transported all the way from south Wales.

Group IX, from county Antrim, Northern Ireland, is represented by one axe (West 31) and one flake (Cu 71). The flake probably results from the reworking of a broken axe. The macroscopic attribution of a flake from Walney Island, as mentioned above, should also be taken into account.

Group XI is represented only by five flakes, two from Great Gable (Cumb 10, 11) and three from Pike o'stickle (West 18, 22, 23). Outcrops of Group XI were found in this area by R G Plint in 1952 (Fell 1954; Evens *et al* 1962, 218-9; 1972, 275; Plint 1962, 1-7) and by Davis (1984). No finished axes of Group XI have yet been identified.

Group XV was first described by Shotton (1959) and attributed to a source in the Coniston Grits of the southern Lake District. It is thus no surprise to find this group so important in Cumbria. It is perhaps of some historical interest to note that two miner's tools (Cumb 1, West 2), which were subsequently placed in Group XV (Evens *et al* 1962), were originally submitted to Professor K C Dunham, who described them in 1948 (record cards) as chloritic sericitic siltstones of a type common in the Coniston Flags of Silurian age in the southern part of the Lake District, between the Duddon Valley and Kendal. Group XV implements are made by a pecking and not a flaking technique. No centre of manufacture has been

found, and the possibility of being able to do so seems unlikely (Coope 1979).

Group XX was originally described by Shotton (1959) and attributed to a source in the Charnwood Forest area of Leicestershire. Shotton drew a clear distinction between this rock and the Ordovician tuffs of the Lake District. Its only product in Cumbria is an axe from Kents Bank, near Grange-over-Sands (Lanc 3). However, recent petrological work (Davis 1984) suggests the need for a more cautious approach to the origin of Group XX.

Group XXXIV: new petrological group

Group XXXIV is a new group that contains both perforated and unperforated implements manufactured from a leucogabbro rock which has an east-west trending outcrop on the southern flank of Carrock Fell. This rock is best seen at White Craggs, where it forms a central part of the main gabbroic outcrop to the south of a large hillfort on its summit (R G Collingwood 1938). In addition to the more usual optical microscopic techniques XRD, XRF and back-scatter electron microscopy techniques have been used to match implement to source.

Petrological description

The rock has been described by Harker (1894), Eastwood *et al* (1968), Skillen (1973), and Firman (1978). It is a white, green-speckled rock of relatively uniform mineralogy. The plagioclase is more abundant than in other Carrock gabbros. The plagioclase crystals average about 3 mm in length. Clots of pale brown pyroxene occur, containing parallel, rod-like, diallagic inclusions. Hornblende crystals occur in partial replacement of the pyroxenes, and micrographic intergrowths of interstitial quartz and orthoclase and possibly some albite are also present. Ilmenite occurs in varying amounts, often accompanied by biotite. Micropegmatite occurs in interspaces and in narrow veinlets between the plagioclase crystals.

Typology

Three axes (Cu 19, 20, 52) and one axe-hammer (Cu 80) and one macehead (Cu 81) have so far been attributed to Group XXXIV.

Ungrouped rocks

Several possible correlations with rock outcrops are being investigated among the ungrouped implements from Cumbria. No further new petrological groups are proposed at this stage, and the notes which follow are simply intended to indicate the current state of progress.

The range of rock types utilized in north-west England by prehistoric artisans for implement manufacture is very interesting. For example, in the present research one further cluster has been identified, in addition to Group XXXIV, within the relatively large number of ungrouped gabbro implements. This comprises eleven other ungrouped gabbro implements. They include five axes (Cu 2, 23, 25, 37, 38), two hammers (Cu 29, 133), a battle-axe (Cu 8), an axe-hammer (Cu 95), a macehead (Cu 9) and a pebble-hammer (Cu 109). These all fall within the petrographic range of other published descriptions for Carrock gabbros, and it is reasonable to assume a local

source for these implements, pending further petrological investigations.

Bearing in mind the likelihood of further correlations between ungrouped implements and local outcrops, a number of lines of enquiry are being followed. It can already be shown that one axe-hammer (Cu 92) matches the picrite outcrop at Dash Falls, north of Skiddaw (NY 274318), but a single implement is not enough to establish a new group. Other possibilities being investigated include the following: an axe-hammer (Cu 30) and a quoit (Cu 115) which may match with the Embleton diorite; a pebble-hammer (Cu 105) with the Cockermouth basalt; a battle-axe (Cu 125) with rocks of the Carrock Fell complex; a pestle (Cu 111) and a macehead (Cu 122), and other ungrouped implements made of tuff and andesite, as mentioned earlier, with Borrowdale Volcanic rocks; and an axe-hammer (Cu 139) with hornfels from Shap Fell. No outcrops of quartzite are known in the area, although rounded blocks ranging in size from pebbles to small boulders occur locally in the glacial drift and in river deposits.

Archaeological associations and dating

Very few stone implements from Cumbria have been found in dated contexts. However there are two radiocarbon dates from a small axe-making site where Group VI rock was worked, below the summit of Thunacar Knott, on the north side of the Langdale Pikes: 2730 ± 135 bc (BM 281) and 2524 ± 52 bc (BM 676) (Clough 1973). Two Group VI axes (Cumb 5, 6) come from the Ehenside Tarn settlement, Beckermest, which has produced radiocarbon dates for wood samples ranging from 3014 ± 300 bc (C 462), through 2175 ± 115 bc and 2101 ± 115 bc (Q 303), to 1680 ± 150 bc (BM 68). However it is not possible to apply any of these dates with certainty to the stone implements themselves from that site because of the lack of recorded associations, though they are more than likely to have been made within that broad range of time (Fell 1951; Walker 1966).

The evidence, such as it is, is consistent with a suggested date range for the production of Group VI implements of c 3000-1750 bc. This would be in accord with pollen analytical work at the head of Great Langdale and around Blea Tarn and Red Tarn, which has shown that a *landnam* type of forest clearance occurred just above the elm decline, and can be dated to c 3000-2200 bc (Walker 1965; Pennington 1970; 1973; 1975). There is nothing among the Cumbrian material to contradict, or indeed to add to the recent discussion of British stone implement chronology by Smith (1979).

A miniature axe or chisel and an axe fragment (Lanc 1, 2), both of Group VI, were found in the sandhills at North End, Walney Island, with an unstratified flint industry ranging in character from Neolithic to the earlier part of the Bronze Age (Cross 1948). A broken Group VI axe (Cumb 4) from the Greycroft stone circle, Seascale, also suggests a date in the late 3rd or early 2nd millennium bc (Fletcher 1958). It should also be remembered that a broken polished stone axe was found in the entrance to the class I henge monument known as Mayborough at Eamont Bridge (Harkness 1878) and was described as 'of an ash breccia of the volcanic series of the Lake Country'. Its whereabouts are now unknown.

In 1978 two axes and a roughout (Cu 148-50), all of Group VI, were found in the excavations at Blackfriars Street, Carlisle. A flint and stone industry from that site indicates a date in the 3rd millennium bc. No radiocarbon dates are available, but ploughing had taken place on the site long enough before the Flavian occupation for a turf line to have formed (McCarthy 1980).

A large roughout axe, which has not been sectioned but which is probably of Group VI or a related tuff of the Borrowdale Volcanic Series, was found at Williamson's Moss, Eskmeals (Cu 337: Cherry 1969, fig 3, 54). Pollen analysis has shown that it came from a position after, though not long after, the elm decline, probably c 3000 bc (Pennington 1970, fig 13, where the site is referred to as Pritt's Field).

Attention can also be drawn to several groups of axes, either roughouts or in finished form, which have been found together. These may be taken either as indicators of early settlement nearby, or as parcels lost in transit.

Two polished Group VI axes (Cu 84-5), found together at Ibbotsholme, Troutbeck Bridge, show the variety of contemporary axes, and are likely to have been used for different purposes. No other artefacts or structures were noted when these were found (W G Collingwood 1903). Similarly two axes of different dimensions (Cu 193-4) were found at Sowerby Wood allotments, Barrow-in-Furness, when a well was being dug (Spence 1937). Three polished axes of Cumbrian type, which were found together at Belmont, near Penrith, are in private hands and not now available for study (McIntyre 1937; Fell 1964), but from the published photograph and description they appear to be of Group VI or a similar rock, and they are typologically similar to axes from the Ehenside Tarn settlement. Two more apparently Group VI axes (Cu 331-2) are recorded from Reagill, but the circumstances of the find are not known (Fell 1974).

Four roughout axes (Cu 293-6) were discovered at Mossgarth, Portinscale in 1901, and were described at the time as being found under 18 in of peat (W G Collingwood 1902). These roughouts are in the Fitz Park Museum at Keswick, together with two others (Cu 297-S) from the same place (Fell 1951). All are characteristic of Cumbrian stone axe production. The concentration of roughout and polished stone axes in the Keswick and Castlerigg area implies local settlement, and could suggest that trade in stone implements was one of the activities attendant on gatherings at Castlerigg stone circle.

Four similar roughouts (Cu 213-5) were found in a crevice in the limestone at Skelmore Heads, Urswick, in 1959, just outside the hilltop earthwork and close to a diminutive long cairn (Barnes 1963; Powell 1963; 1972). There are also other records of a number of axes being found together at various sites in Furness and Cartmel (Bunch & Fell 1949) and at Bowness on Solway (Spence 1935), which are no longer available for study.

Several polished and roughout axes (Cu 250-6) from Newtown, Mawbray, now in Carlisle Museum, and from Old Mawbray, in the Ashmolean Museum, Oxford (Spence 1940; Manby 1965), made of 'blue whinstone' suggest the existence of settlements where the products of the Lake District working sites were used for heavier tools.

There are no definite records of axe-hammers or other shaft-hole tools being found in an archaeological context

in Cumbria. It is just possible that an implement described as a 'stone battle-axe', found in a barrow known as the Druids' Grove, near Hesketh Newmarket, in 1794, was an axe-hammer (Whellan 1860; Clifton-Ward 1878). This, unfortunately, has not been traced, though other objects found when the barrow was removed are in Carlisle Museum (Spence 1940; Fell 1967). When Whellan wrote in 1860, the term 'battle-axe' could have been used to describe what we now call an axe-hammer, or even a stone axe.

Two barbed-and-tanged flint arrowheads, which have been recorded from Great Langdale (Plint 1964), point to a continued presence in the valley after the large-scale production of axe and adze blades had come to an end. The expansion of the bronze industry, and the wider use of shaft-hole implements requiring a different type of rock, may gradually have replaced such fine-grained tuffs in the 2nd millennium bc.

In this context the macehead or pebble-hammer recently reported by M Davies-Shiel from the south scree of Pike o'Stickle, Great Langdale, may be an important find. It has not yet been sectioned, but it is not of Group VI rock. Typologically it most closely resembles an example from Appleton, Cheshire, which is of Group XV (Roe 1979). With other material formerly in the Lake District Heritage Centre, Ambleside, it has now been transferred to Kendal Museum.

Conclusion

It is quite clear from the study of both grouped and ungrouped implements that Cumbria was entirely self-sufficient in stone implement production. The evidence from other areas demonstrates how far afield the products of its known axe-factories were distributed. Briggs (1976; 1977; 1978) has drawn attention to the possibility that glacial erratics of Lake District origin were widely used in the making of stone implements in Yorkshire and elsewhere, in preference to an assumption that, for example, all Group VI axes found outside Cumbria are the result of trade or exchange. However the vast amount of waste flakes and rejected roughouts at the factory sites suggests that these workings supplied the needs of more than those communities living in the immediate vicinity. Besides, if men went to the trouble to mine flint from the Chalk at Chalk Hill, Findon, Sussex as early as 3390 bc (BM 181) in order to obtain better quality stone (Smith 1974, 105, 130), it was doubtless for the same reason that rock from the source outcrops in the Lake District was preferred to recycled material from the Drift. In addition Group VI axes are found in areas unaffected by glacial drift from the Lake District. Shotton (1976) shows that there is little reason to accept the wide use of glacial erratics from the Lake District as a contributory factor to the abundance of stone implements of all kinds elsewhere.

Much work on the typology of stone axes from Cumbria and on the possible routes and methods used for purposely transporting them across the Pennines has been done by Manby (1965; 1979). Cummins (1979) postulated a secondary distribution centre in east Yorkshire for Group VI products on account of their relative frequency among the total assemblage from that area. This suggested to him bulk trade - if such it was - initiated by consumer demand. This provides one explanation for the dominance

of Cumbrian implements over so much of the rest of England (Cummins 1980). But a fundamental problem of implement petrology is that similar rocks used in implement manufacture often occur in widely separated geographical areas (Davis 1985). Shotton and Hendry (1979) have already warned that until every possible source has been located and analysed, there exists the possibility of a new one being discovered with the same pattern of trace elements, or of two or more already known having inseparable patterns. Recent work (Davis 1984) has matched Group VIII in the Lake District, and casts doubt on Group XX coming solely from Charnwood Forest. It is therefore necessary to question the general acceptance of all Group VI and Group XI products originating in north-west England. The occurrence of Cornish axes in east Yorkshire is being further investigated in the light of one axe from Cumbria (Cu 52, Lindale-in-Cartmel) of a previously assumed Cornish origin being matched to Group XXXIV, which is from a more local source as defined here, and so also is the probable dispersal of Group VI axes from the Lake District. The production and distribution of implements in Groups XXXIV and VI may have been contemporaneous, but the inclusion of an axe-hammer within the former group suggests a longer or more recent period of exploitation for Group XXXIV rock than for Group VI rock.

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Note: The following additional abbreviation is used here: CW 1/2: *Trans Cumberland Westmorland Antiq Archaeol Soc* 1st/2nd series

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13 The petrological identification of stone implements from north-east England

WA Cummins and A F Harding

Abstract

The report covers 170 stone implements from the old counties of Durham and Northumberland - over 50% of the total known to have been found and almost all the implements now preserved in public collections. Of the total, 72% were assigned to an established petrological group. Group VI, with 37% of the total, is much the most numerous, followed by Groups XVIII (13.5% of the total, but dominant in the shaft-hole group) and the newly identified XXVII (11% of the total). A few axes from distant sources (I, IX, XX, XXIV) are also present. Some consideration is given to the location and nature of the Group XVIII production area, which lies within the region in question.

Introduction

The area covered by this report consists of the old counties of Durham and Northumberland. The new counties of Cleveland, which straddles the boundary between Durham and Yorkshire, and Tyne and Wear, which lies entirely within our area, are not observed in the county lists which are given at the end of the report, and certain findspots now in Co Durham but formerly in the North Riding of Yorkshire have been omitted.

For various reasons systematic work on the stone implements of north-eastern England was slow in getting started. In the early years of the CBA (late 1940s and early 1950s), WA Bulmer catalogued the collections at Alnwick Castle and the Blackgate Museum, Newcastle upon Tyne, and made drawings of the implements. At about this time a small number of implements were sectioned by Professor K C Dunham, then Professor of Geology at the University of Durham. During this period also quartz dolerite axes from various other parts of the country were forming a group with distinctive petrology, which Professor Dunham identified with the Whin Sill. These quartz dolerites became Group XVIII, whose source was believed to be in the 'thicker developments of the Whin Sill as in Teesdale' (Evens *et al* 1962, 224). Since then Group XVIII has become one of the best known groups, especially for axe-hammers (Roe 1979).

Nothing further was done until 1977, when R V Davis, whose work in Cumbria appears elsewhere in this volume

(ch 12), thin-sectioned the stone implements from the Bowes Museum, Barnard Castle. Most of the work reported here, however, has been done since the present authors began their joint work early in 1981. During this most recent period all the thin sections have been made by Mr John Travis, using the coring technique (Fenton & Travis, ch 1). A small number of identifications have been made by Mr David Schofield, Department of Geological Sciences, University of Durham.

This report covers 170 implements: 43 from Co Durham (24 axes, nine axe-hammers, nine other perforated tools and one waisted tool) and 127 from Northumberland (93 axes, seventeen axe-hammers, thirteen other perforated tools and four other tools). These figures are modest by comparison with some other areas of England, notably Yorkshire, the more so in view of the fact that the source of Group VI lies so close to the region, and that Group XVIII source or sources are within it. Yet this seems to be an accurate reflection of the true archaeological picture. Most of the implements in the region's museums have been examined and the majority sectioned; conversely, almost all implements reported here are in museums. Thanks to the painstaking work of Mrs Moraig Ovens and Dr Robert Young, who have searched the available records, we have a good idea of the number of recorded finds of implements in the region: around 75 axes and 40 perforated tools in Co Durham, and around 150 axes and 50 perforated tools from Northumberland. The 170 implements examined thus represent a good proportion - over 50% - of all implements known to have been found in the region, though naturally the relationship to the true prehistoric pattern cannot be judged.

Only two identifications (Du 1 and Nd 1) have been published previously (Evens *et al* 1962, 262-3, nos 981, 1046).

The distribution of stone implements in north-east England has been discussed by Burgess *et al* (198 1) and Young (1984, 156ff), and need only be summarized here. The distribution is fairly generally scattered between the Tees and the Tweed, with two main exceptions: the Cheviot massif in Northumberland, and the south Durham lowlands, dominated by heavy clay soils. There are particular concentrations on the river Coquet, on the middle Tyne valley, and on the two ends of the Wear.

Table 31 Products of grouped rocks from north-east England

	I	VI	IX	XV	XVIII	XX	XXIV	XXVI	XXVII	XXVIII	Total gped	Total unged	Grand total
<i>a) All Implements</i>													
Axes	3	63	2	0	5	1	2	1	11	2	90	27	117
Perf	0	0	0	5	18	0	0	0	8	1	32	16	48
Others	—	—	—	—	—	—	—	—	—	—	—	5	5
Total	3	63	2	5	23	1	2	1	19	3	122	48	170
%	1.76	37.06	1.18	2.94	13.53	0.59	1.18	0.59	11.18	1.76	71.77	28.24	100.01
<i>b) Axes only, % representation of each Group</i>													
	2.56	53.85	1.71	—	4.27	0.85	1.71	0.85	9.40	1.71	76.91	23.08	99.99
<i>c) Perforated implements, % representation of each Group</i>													
	—	—	—	10.42	37.50	16.67	—	2.08	—	66.67	—	33.34	100.01

North Northumberland is notably richer in finds than south Northumberland, and that county as a whole is notably richer than Durham. While heavy soils and moorlands appear to have produced few finds, the altitudinal variation of the findspots is striking, ranging from the coast to the uppermost reaches of the main river valleys at around 307 m. The relationship between axe distribution and natural factors in Weardale has been discussed in detail by Robert Young (1984).

Petrology

Of the implements examined, 122 or 72% could be assigned to established petrological groups. Table 31 shows the distribution between the different groups. Group VI is, as expected, much the most abundant, with 63 specimens (37% of the total), all of them axes. Conversely, of all axes examined 53.8% are of Group VI. Group XVIII is the next most abundant, with 23 examples (13.53% of the total). It is dominant in the shaft-hole group, supplying 37.5% of the total, but it was of minor importance for axes (4.27%). The newly identified Group XXVII (Fenton 1983; 1984; ch 15) comes next, with nineteen specimens (11.18% of the total), divided between axes and shaft-hole implements; it accounts for 16.7% of the latter and 9.4% of the former. The only other group to figure prominently is XV, which was used for five shaft-hole implements (2.94% of the grand total, but 10.4% of the shaft-hole group). Groups VI, XV and XVIII are all associated with sources in northern England, and it is no surprise to find them occupying such a prominent place in this area. Group XXVII has been located in southern Scotland; in Fenton's study of the battle-axes and axe-hammers of Scotland, it was his largest group, accounting for 136 implements out of 272 examined. Blanks suitable for axe-hammer and battle-axe manufacture occurred in the southern uplands from Berwickshire to Wigtonshire, so its relatively high representation in north-east England comes as no surprise.

A small number of axes have reached the area from more distant sources. The furthest travelled are three axes (one unfortunately unprovenanced) of Group I, from south-west Cornwall, some 600 km away. This is the most

abundant group in southern England, and still occurs in significant numbers as far north as the Flamborough Head area in Yorkshire (Cummins 1979, fig 7). There are also two axes of Group IX from Northern Ireland, two of Group XXIV from the Loch Tay area of the Scottish Highlands, and one of Group XX from the Charnwood Forest area of Leicestershire. Notable by their absence are any products of the Welsh axe factories, particularly Group VII from near Penmaenmawr on the north Welsh coast.

There is also one axe which belongs to the new Group XXVI from Yorkshire. There is a possibility that these fine-grained, carbonate rock axes may be modern fakes, rather than genuine prehistoric artefacts (Phillips *et al*, ch 9).

The remaining ungrouped rocks may be considered in four categories. First, there are several volcanic tuffs. Most of these are not far removed from Group VI and may well have come from the Lake District, possibly from axe factories. Then there are various igneous rocks, mainly basic and intermediate. These are as follows: dolerite (6), quartz gabbro (3), near to the new Group XXVII from Scotland (Fenton, ch 15), olivine dolerite (1), quartz diorite (1), granodiorite (1), basalt (3), andesite (3) and porphyry (1). Without being specific about individual types, all these igneous rocks could have originated in the midland valley of Scotland, the southern uplands of Scotland, or in northern England. There are rather fewer metamorphic rocks, including greenstone (4), amphibolite (3), metabasalt (2) and biotite cordierite hornfels (1). Of these the greenstones may be from the Scottish Highlands, or they may have come up from Cornwall with the Group I axes; the amphibolites are probably from the Highlands; the metabasalts may be from the Highlands; and the hornfels is probably from the southern uplands or from the Lake District. The sedimentary rocks include quartzite (5), mudstone (2), greywacke not belonging to Group XXVII (1), and ironstone (1). The ironstone may be a natural object and the others are rather non-specific as regards their source. Almost all these rock types are likely to occur as erratics in the local glacial deposits and, consequently, in the river gravels and other superficial deposits.

Group XVIII

Group XVIII is of particular interest here, because its presumed source lies somewhere in this area. The distribution of Group XVIII axe-hammers (Roe 1979, fig 6), down the Yorkshire coast and into Lincolnshire and East Anglia, is very similar to that of the dolerite-rich North Sea Drift (Harmer 1928, 90 and pl 5). The implication is that all these axe-hammers could have been made from locally available glacial erratics. This view is supported by a petrological examination of dolerite boulders from Thornwick Bay, just north of Flamborough Head (Phillips *et al*, ch 9). Fenton (1983, 55-77), on the basis of experimental and field studies, considers that most axe-hammers and battle-axes were made from suitably shaped cobbles gathered from river gravels and beach deposits.

The distribution pattern itself, however, might equally well be explained by coastwide trade in axe-hammers manufactured at outcrop. With this possibility in mind, coastal outcrops of the Whin Sill were visited. Little trace of working was to be expected from manufacture by pecking (Shotton 1968, 487; Coope 1979), except possibly some unfinished implements, broken during production. On the other hand, it was just possible that the dolerite might have been quarried, like the spilite on the little Norwegian island of Hespliholmen (Kolderup 1925, 170). Traces of stone-working were found just north of Cullernose Point (NU 261188), about 9 km north-east of Alnwick, where the Whin Sill dips gently eastwards into the sea. Contrary to all expectations, however, the waste material consisted of flakes, with well developed cones of percussion. Some of the flakes were plano-convex, as if struck from the plane surface of a joint block. Others were concavo-convex, as if struck from a surface from which a previous flake had already been removed. The flakes were large, ranging from 110 mm wide by 100 mm deep by 26 mm thick at the point of percussion, up to flakes measuring 200 mm by 160 mm by 60 mm and weighing nearly 3 kg.

The amount of waste material found at this site was small, only a dozen or so good flakes. There are three possible reasons for this small quantity of waste: 1) only a very small amount of stone working was done at the site; 2) most of the waste has been washed into the sea, leaving only a trace near the high tide line; 3) most of the work was done higher up the slope, and the waste is buried under a cover of soil. There is, of course, no possibility of dating these flakes. They might be prehistoric, or they could be quite recent. Petrological examination of thin sections confirms that the flakes belong to Group XVIII, but this in itself does nothing to link them to the manufacture of axe-hammers, or any other prehistoric artefacts of that group.

The size of the flakes seems to be the strongest clue to their origin. Every geologist knows that to collect a good-sized specimen from a block of dolerite, he should use a seven pound sledge-hammer. A small geological hammer will only remove small flakes. Attempts to remove flakes by hand, with the aid of nearby boulders, failed. Some of the 'hammer stones' broke, and a little experience suggested that the loss of fingers was a much more likely outcome than the removal of large flakes of dolerite.

In the light of Fenton's experimental work on the manufacture of axe-hammers and battle-axes by pecking (Fenton 1983, 55-77), it seems clear that no prehistoric tool-maker in his right mind would have attempted to make such tools by breaking up fresh joint blocks of dolerite. These waste flakes, therefore, probably have little relevance in the search for the source of Group XVIII implements, and may emanate from the activities of a passing geologist in recent times.

Prehistoric trade or glacial erratics?

In a glaciated area such as north-east England stone implements may have been made locally from the plentiful supply of glacial erratics, or they may have been imported from more or less distant factories, situated near outcrops of particularly good stone. An attempt is made here to assess the relative importance of these two ways of acquiring stone tools.

It must be appreciated at the outset that, with a few exceptions, it is impossible to say by inspection how an individual artefact reached its destination. The flaking or pecking, followed by polishing, which resulted in the finished product, have generally removed all trace of the original natural surface, whether of a rough scree block, a smoothed and striated glacial boulder, or a rounded and water-worn fluvial pebble (Cummins 1978). The main exceptions are the pebble-hammers, weights, net-sinkers, etc, which are clearly natural pebbles, modified only by being perforated. Similarly some of the cruder axe-hammers and battle-axes seem to have inherited their shape, only slightly modified, from natural cobbles.

It is well known that there were two principal methods used in shaping stone tools: flaking and pecking. Flaking was applied to tough, fine-grained rocks such as flint, tuffs, the chilled margins of igneous intrusions, and certain products of thermal metamorphism. Such rocks have limited distribution and were often intensively exploited in axe factories, such as the Great Langdale group of factories in the Lake District, which were responsible for the production of Group VI axes. Pecking, on the other hand, was generally applied to coarser-grained rocks, which are rather more widespread. Pecking is a much slower process than flaking, and time spent searching for good blanks (pieces of rock close to the shape of the intended implement) saves hours of pecking time. Fenton's work (1983, 1984) shows that the best blanks are water-worn cobbles from river gravels, beaches, etc, on which much of the necessary work has already been done by natural abrasion. One of the advantages of such cobbles is that they are generally free from internal flaws, so they can withstand the pecking without breaking. Fenton's work was done in connection with battle-axes and axe-hammers, but applies equally well to axes.

In the light of the above it is possible to estimate the relative importance of trade and local production of stone implements in north-east England. Axes are considered separately from all other types of implement. Among the axes probably about 70% were acquired by trade. This figure includes some of the ungrouped tuffs, as well as a few ungrouped greenstones, which may have come from Cornwall. By far the greatest number of imported axes came from the Lake District. The remaining 30%, which

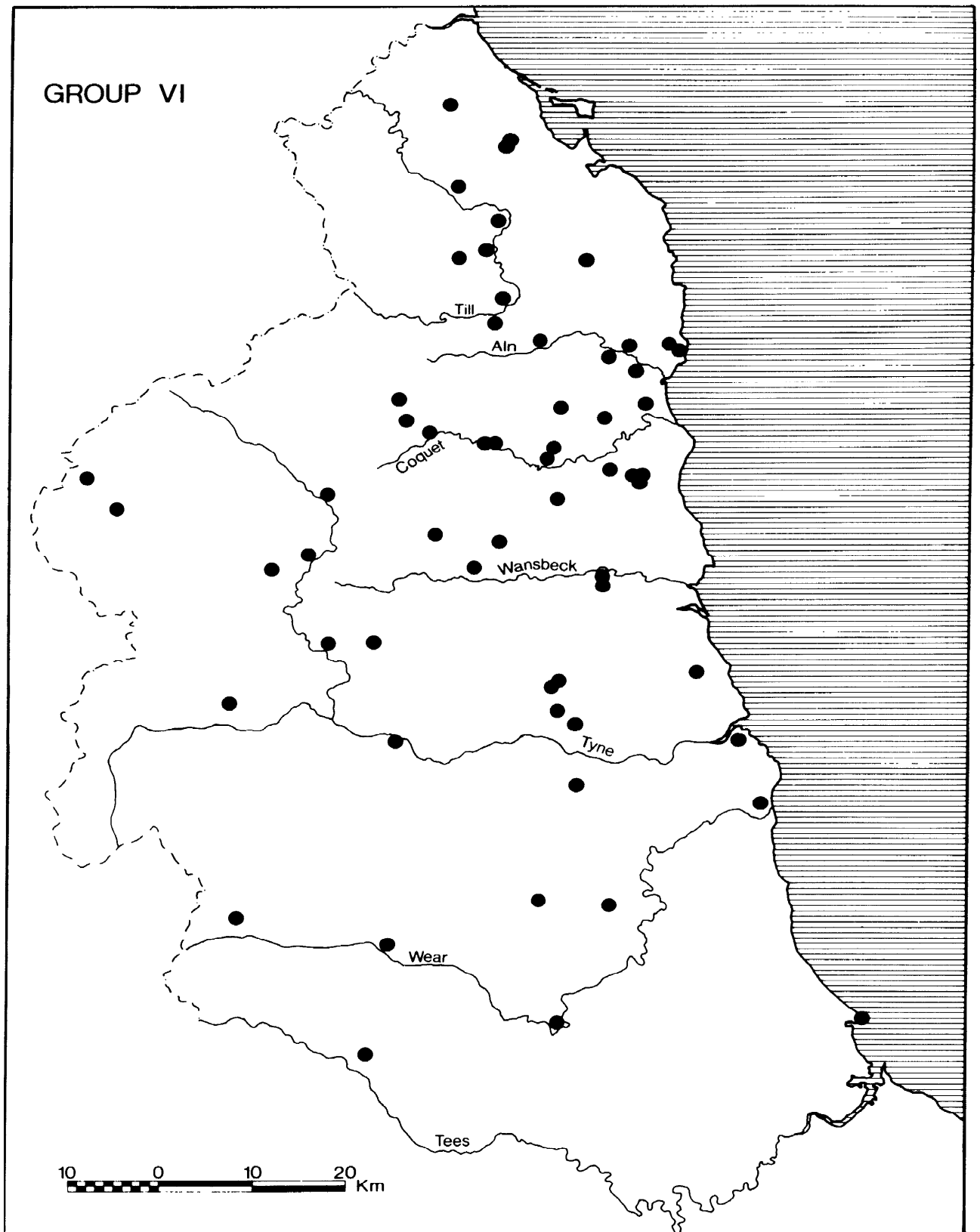


Fig 11 Distribution of Group VI axes in north-east England

were probably made locally, includes all the Group XVIII and Group XXVII axes, as well as most of the ungrouped axes. The axe-hammers, battle-axes, and a variety of miscellaneous implements could all have been made locally, and there is no reason to suppose that any of them were traded from a distant source.

Archaeological considerations

There is little evidence of an archaeological context for stone implements in north-east England. No examples are known to come from Neolithic or Early Bronze Age sites. The axe from Kennel Hall Knowe (Nd 100) was on an Iron Age and Romano-British site (Jobey 1978), and may be compared with the flint or chert axe found on the Iron Age farmstead at Burradon (Jobey 1970, 82-3). There are, however, other early finds from Kennel Hall Knowe, so that the one-time presence of a Neolithic/Bronze Age site is possible. Burgess *et al* (1981, 10) have drawn attention to similar finds from the Roxburghshire Cheviots, and discussed the relationship of chance finds to continuing use into the late prehistoric period. In Durham, too, axes and axe fragments have turned up on much later sites. Whole examples come from the Roman forts of South Shields and Piercebridge, and there were fragments in medieval sites at Simy Folds (Teesdale) and Hartlepool (Du 38).

Little will be said about typology here; this subject should be considered in the context of the whole corpus of stone implements from the area, a task which Mr C Burgess and Mrs M Ovens have in hand. Although Group VI stone was so widely used, few axes were definitely of the 'Cumbrian type' (Fell 1964). Fine exceptions are those from Witton Gilbert (Du 8) and Cowshill (Du 33), while the fragment from Rogerwell Hush (Du 19) may originally have been of this type. A common form in Northumberland is a medium-sized axe with gently tapering sides and squared butt, as typically on axes from Corbridge (Nd 23), Longhorsley (Nd 29) or Rothbury (Nd 67). For the rest of the axes, few regularities are discernible. Of the perforated implements, Mrs Roe has already discussed the battle-axes; the axe-hammers seem more or less evenly divided between her classes I and II (Roe 1966; 1979).

Conclusion

The results presented here go some way towards filling a long-standing gap in research. Although it was predictable that Group VI would be the most used source for axes, it is notable how wide a range of other materials - in particular the Scottish greywacke (XXVII) - was utilized. In the case of perforated implements it is also notable, though not unexpected, that Group VI was not used at all, the majority being of Group XVIII dolerite or Group XXVII greywacke.

The maps (Figs 11-12) illustrate these points. Group VI axes reach over the entire area. Their presence far into Weardale and Teesdale may be suggestive, as these are the shortest valley routes to Cumbria and the Lake District, but with only ten identified Group VI axes in Co Durham the point cannot be pressed. In Northumberland the bias of distribution of Group VI axes is to the east, with a scattering in the Cheviot valleys and foothills. This tells us

little about transportation routes from the Lake District. Group XVIII and XXVII products are distributed throughout north-eastern England; Group XVIII is infrequent (only two cases) north of the Coquet valley, and Group XXVII is similarly infrequent south of the Wear (one case). These distributions may be assumed to reflect the geographical locations of the raw materials involved. The finer definition of possible trading routes, however, must await further discoveries and a new programme of identification.

Acknowledgements

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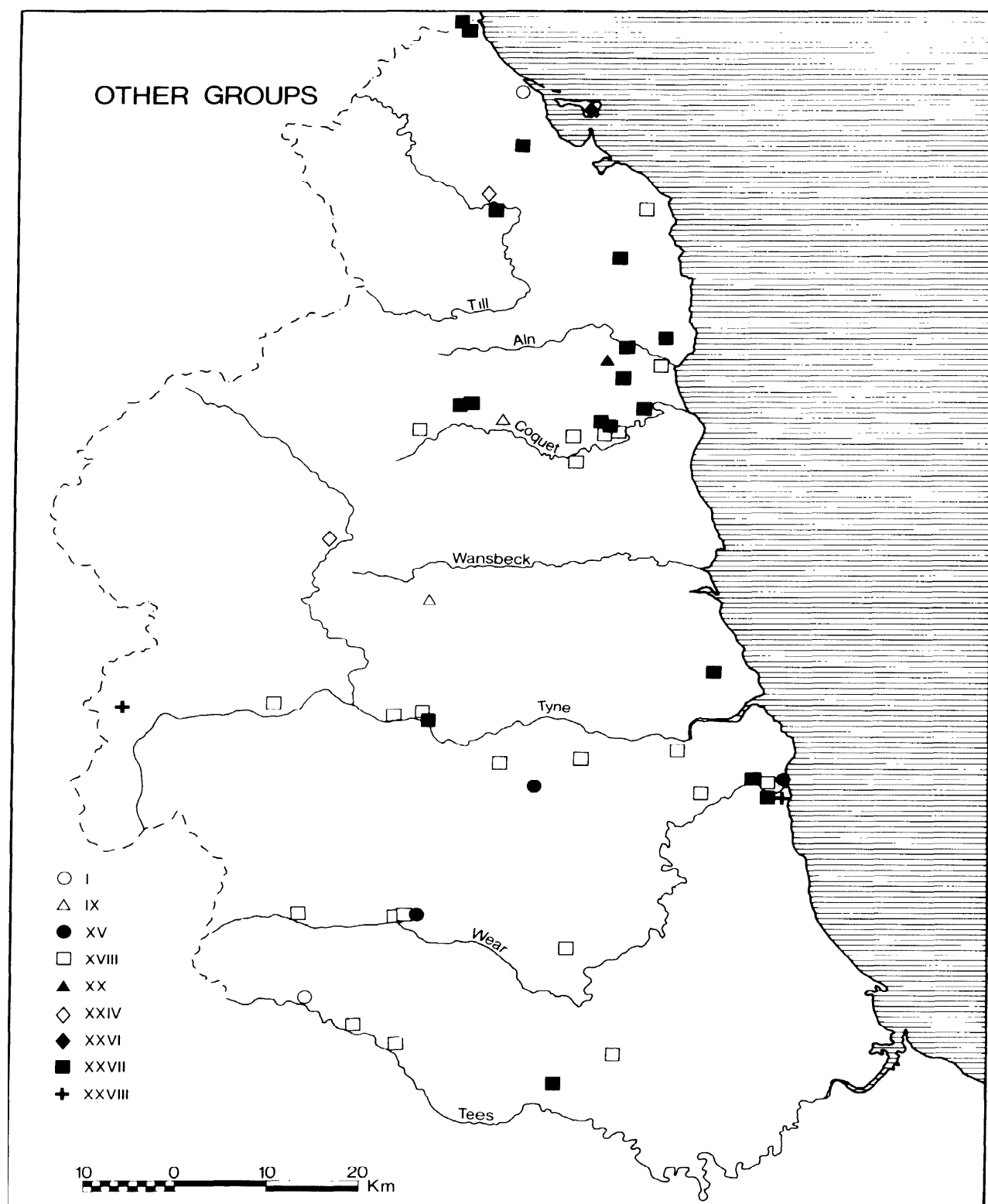


Fig 12 Distribution of other grouped products in north-east England

Notes on the list of identifications

1 Further information is provided in the notes which follow the list. Many of the implements have been published (eg those in Alnwick Castle Museum: J Collingwood Bruce, *Catalogue of the Antiquities at Alnwick Castle*, 1880), but publication details are not provided here. The Museum accession number should make it possible to identify the piece in question.

2 *Locality*: this is based on the relevant Museum register and/or associated publication. In some cases these are different from those used by previous workers. Parish names are not generally used.

3 *National Grid Reference*: in the absence of more detailed information, four-figure references have been provided for the 1 km square containing the parish church of the locality in question. Many of the locations are thus approximate. Implements recorded only to county or other general area are not plotted on the maps.

4 *Museum or collection*: private owners are not listed. Museum accession numbers are the most up-to-date available. In some cases, notably the British Museum, these are different from those listed by previous workers.

5 *Petrological group or identification*: the majority of these identifications are by WA Cummins. A few are by R V Davis or D Schofield.

14 The petrological identification of stone axes from Scotland

P R Ritchie and J G Scott

Abstract

The development of implement petrology in Scotland is detailed from 1918 onwards. The results of the examination of 494 unperforated axes are tabulated. Groups VI, IX, XXII and XXIV are discussed and two new Groups are defined. These are Groups XXXII XXXIII, an epidiorite and a biotite-sillimanite-schist respectively. Aberdeenshire axes made from thermally altered sediments may have their origin in the southern uplands.

Introduction

The list of identifications given here is an amalgamation of the work of a number of hands, and deals only with unperforated implements. Some work has already been published and appears in the bibliography, but the main burden has fallen on Drs E W MacKie and N Holgate in Glasgow University, J G Scott - lately of Glasgow Art Gallery and Museum, P R Ritchie of Edinburgh, H Coutts (when in Dundee), and Dr F W Whyte of Dundee University.

No attempt is made here to deal with the archaeological implications of the results; the results are presented so that all may use them. One proviso that must be made is that they are incomplete, and the nature and extent of this has to be given appropriate weighting in using them. These and other constraints are dealt with later. Likewise the bibliography has not been extended to cover purely archaeological aspects. For the period up to 1964 this can be obtained from Ritchie's survey (1968).

Although a brief résumé as given in that survey of the development of studies in Scottish implement petrology, a rather more extensive account is merited here. Over the years a number of scholars have been involved, different reference systems have been used, and attention has been concentrated on particular fields of study. It came as no surprise that there were discrepancies in the records, and in the present list every effort has been made to eliminate them.

The first serious study of material in thin section was undertaken by Alexander Scott who helped Ludovic Mann in his work on pitchstones (Mann 1918). While some of the artefacts certainly fall within our time-span, they are all small, flaked tools and are not dealt with here. However

they should not be overlooked when dealing with provenance studies in a wider relationship and to this end reference should be made to Ritchie (1968) and to Thorpe and Thorpe (1984).

Experiments were also carried out by Mann when he looked at the use of stone and bronze axes (Mann 1903). His work on comparing tool marks on prehistoric wood with those produced in contemporary experiments was 50 years in advance of its time. Lacaille's examination of the working properties of rocks other than flint was not really concerned with provenance (Lacaille 1940). Nevertheless it is worthy of scrutiny to see the sort of waste which might be expected from rocks lacking the homogeneity of flint.

After his excavation of the settlement of Eilean an Tighe on North Uist, Sir W Lindsay Scott (1951) had the stone implements examined, and the results of this are included in the list where appropriate (UST 2-6). In the course of a typological study Gibson (1944) wrote about cushion maceheads. A Shetland source for these (now known as Group XXII) was suggested for implements from Fife and Lewis on the basis of macroscopic examination. The present writer urged caution (Ritchie 1968) and this is reiterated since it is felt that more work is needed before such an ascription can be confidently stated.

At the time when two axe fragments (WLT1,2) were found in the Cairnpapple excavation no facilities were available here, and they were examined by the South-West Sub-Committee. However they are now incorporated in our lists.

The first really systematic work started after the discovery of the Great Langdale sites by Bunch and Fell (1949). R B K Stevenson, then Keeper of the National Museum of Antiquities of Scotland, scrutinized the whole of the stone axe collection. This was done on a macroscopic basis allied with typology, and supported by limited thin-sectioning carried out by F W Anderson of the Geological Survey. No separate identifying numbers were given to the axes, which are referred to in a manuscript list by their museum register numbers. Although the list was never published as such, it formed the basis for Prof Piggott's discussion and distribution map which appeared in *Neolithic communities of the British Isles* (Piggott 1954).

In 1951 the present writer followed this by looking through the national collection for axes which were likely



Fig 13 Map of Scotland showing county and island abbreviations used in the Scottish petrology survey (see list of identifications, ch 15 for full names)

to belong to Group IX, and isolating these for sectioning. During the course of this, other likely groups, such as that which was later to be labelled Group XXII, were observed. Now that sectioning formed a routine part of the investigation, numbers were allocated to each specimen and placed on each axe. This was before the establishment of the county system which is now in use, and the letters Sc followed by a serial number were used; as a consequence most of the Group IX axes in the national collection bear these numbers. The first results were

passed to Prof Jope who used them in his 1952 paper on Tievebuiagh (Jope 1952).

County numbering of implements was first adopted by Livens (1959) during the sectioning of implements from south-west Scotland, but the code which was then in use has been replaced by another (Powell *et al* 1969, xix-xxi); eg for Dumfries DUM has been replaced by DMF. The identifications from Livens' paper are incorporated in the current list with appropriate changes to county numbers.

In Aberdeenshire matters are not so simple. The code

Table 32 Distribution of grouped axes from Scotland by county, on the basis of the selective examinations so far accomplished (see text)

County	VI	VII	IX	XIII	XXII	XXIV	XXXII	XXXIII	Grouped	Ungrouped	Not shown	Total
Aberdeen	5	—	16	—	—	13	23	15	72	63	2	137
Angus + Fife + Kincardine	1	—	1	—	—	3	—	—	5	12	3	20
Argyll	5	—	7	—	—	—	—	—	12	2	5	19
Arran + Bute	8	—	6	—	—	—	—	—	14	2	—	16
Ayr	18	—	2	—	—	—	—	—	20	1	2	23
Banff + Moray	1	—	4	—	—	2	—	—	7	1	—	8
Berwick + E Lothian	5	—	1	—	1	1	—	—	8	1	—	9
Dumfries	25	—	—	1	—	—	—	—	26	3	2	31
Dunbarton + Stirling	4	—	5	—	—	—	—	—	9	3	—	12
Inverness + Skye	1	—	5	—	—	—	—	—	6	2	3	11
Islay + Jura + Mull	—	—	4	—	—	—	—	—	4	—	1	5
Kirkcudbright	19	—	1	—	—	—	—	—	20	2	—	22
Lanark	14	—	4	—	—	1	—	—	19	3	1	23
Lewis + Uist	1	—	3	—	—	—	—	—	4	3	2	9
Midlothian + W Lothian	1	1	1	—	—	—	—	—	3	—	—	3
Orkney + Shetland	—	—	2	—	2	—	—	—	4	1	—	5
Peebles + Roxburgh	7	—	1	—	—	—	—	—	8	1	—	9
Perth	3	—	5	—	—	9	—	—	17	3	—	20
Renfrew	—	—	5	—	—	—	—	—	5	1	—	6
Ross & Cromarty + Sutherland	1	1	2	—	—	—	—	—	3	—	—	3
Wigtown	67	—	2	—	—	—	—	—	69	23	7	99
Scotland (general)	—	—	3	—	—	1	—	—	4	—	—	4
Totals	186	1	80	1	3	30	23	15	339	127	28	494

was changed from ABD to ABN, and when this change was made simple substitution was used in listing with no alteration to actual numbers. At this time an error was made somewhere which resulted in two different lots of axes receiving the same county numbers. Although the present list is now correct, it is possible that there are Aberdeenshire finds which still bear incorrect ABD numbers.

After the Group IX examination was largely completed, the then Scottish Regional Group of the CBA in 1967 extended the CBA's Implement Petrology Survey to Scotland under the direction of P R Ritchie and J G Scott. With many axes likely to be ungrouped, and with limited petrological resources, it was thought that these resources could be used to best advantage in confirming finds of known groups. The decision was taken to follow up the Group IX work with a similar project on Group VI axes. This started with finds from museum collections in the south of Scotland, and has been continuing steadily since.

This decision was made in the knowledge that a separate approach was being used by Drs MacKie and Holgate in the Hunterian Museum in Glasgow. There a spectrum of all the axes in north-east Scotland was being examined, making use of the collections in the Hunterian Museum and in Inverurie Museum. This work was likely to show the extent to which new groups would appear, and this has indeed been the case. Concurrently a certain amount of work was also being undertaken in the Dundee district by H Coutts and Dr F Whyte along similar lines to that in the Hunterian.

For all this activity no charge was incurred by the CBA, and thanks are due to all the universities, particularly Glasgow, which through the kindness of Professors T N

George and B E Leake of the Dept of Geology bore the brunt of the sectioning programme.

The reference material used was collected by P R Ritchie from factory sites in Northmaven, at Killin, Tievebullagh, numerous Lake District exposures, Graig Llwyd, Mynydd Rhiw, Prescelly, the St David's area and Nuneaton. A grant from the Society of Antiquaries of Scotland is gratefully acknowledged for assistance with exploration and planning of the Creag na Caillich site near Killin. Where exact localities could not be visited, thin sections were made available by Prof Grimes. Fieldwork on the sources of pitchstones in Arran was also undertaken in the course of this investigation.

The results of these various activities have been collated and are presented here as a unified list of Scottish implements (Table 32). Topics which are not immediately related to the list will appear elsewhere.

Petrology

Grouped rocks

Group VI

The rock and implement types have been extensively discussed by others (references in Fell & Davis, ch 12). The only addition here is concerned with the factory area, and is amplified below. Museum collections in southern Scotland have been searched for likely Group VI axes (J G Scott), and the sample is probably fairly representative for the area south-west of the Forth/Clyde isthmus. A considerable number of the finds from R B K Stevenson's list (mentioned above) have been confirmed; a few have not. Substantial numbers from other museum collections

in Glasgow and the south have been added, bringing the total so far to 150 items, apart from chips, which brings the overall total to 186. Nevertheless many axes from the counties of Berwick, Roxburgh, Peebles and counties further north still have to be sectioned. This was held in abeyance until publication of existing work was ensured, and scrutiny of collections has now restarted. At this stage, therefore, any mapping of Group VI finds can only indicate the extent of work and is not a true distribution picture within Scotland.

A point which can be made concerns the discovery of roughouts away from the factory area. Of the five roughouts mentioned by Williams (1970), three have been confirmed as being of this group (DMF 2,20; WIG 80); one from Stoneykirk did not come forward for sectioning. To these three confirmations must be added another from Wigtonshire (WIG 66), which is almost a roughout, and that from Ballure in Kintyre (ARG 14) which has already been discussed by Scott (1973).

Scrutiny of the thin sections coupled with fieldwork in the Lake District has brought up another factor. Quite a wide range of variation is found in thin sections ascribed to Group VI, and this is accepted by petrologists engaged in the work. However although a number of sections from south-west Scotland lie too far outside the range of variation to be included, they do resemble specimens collected during fieldwork in the Great Langdale area. This showed the distribution of worked outcrops to be rather more extensive than so far known (Houlder 1979); in particular waste and roughouts were found on Bowfell, an area which had hitherto been blank (Bunch & Fell 1949). In fact it appears that most, if not all, of the ungrouped axes so far sectioned from south-west Scotland can be compared with material obtained *in situ* from the area between Harrison Stickle and Bowfell. Included in this are chips found together on the Lute Sands (Williams 1970) where fragments of Group VI are mixed with the others.

Group IX

By contrast with Group VI, the Group IX programme of 80 identifications covering the whole of Scotland shows a distribution pattern which is not likely to change radically, although other identifications will be added. This comment is based on macroscopic observations made in museums as far apart as Stranraer and Lerwick. Indeed it is the collection in Stranraer that poses a problem. The distribution in southern Scotland would be confined to the one confirmed axe from Kirkpatrick-Durham (KRK 5) were it not for the existence of some poorly located cases, especially the small number donated to Stranraer Museum by the Stair Estates. These have no locality of any kind, undoubtedly belong to Group IX, but have not been sectioned because of the doubts surrounding their finding. These Estates are local, and one might expect the axes to be from Wigtownshire but cannot be absolutely certain.

Even when this uncertainty is taken into account, over 25% of the Scottish distribution comes from the north-east, in particular from Aberdeenshire. It is all the more surprising then that no example was found among the 65 axes from Inverurie Museum or the 40 Aberdeenshire axes from the Hunterian collection.

Typologically the finds fall within the range described by Jope, but it can be noted that a roughout (ARN 10) was found at Machrie on Arran. Although fragmentary axes of Group IX (ARN 8,9) were found on the same farm, they were not necessarily found together.

Group XXII

Attention was drawn to this rock and to the implements made from it by Ritchie (1968, 128-33). It is recommended that 'Northmaven riebeckite-felsite' is a more appropriate name for this rock than 'Uyea porphyry', which has been used in the past. The group number was allocated more recently.

In hand specimen this is a deep-blue to dove-grey, fine-grained rock with cream or pink feldspar phenocrysts and clear quartz blebs. Spherulites may or may not be present, as is also the case with banding in various shades of blue-grey. Under the microscope the ground-mass is usually a microgranular aggregate of albite, orthoclase and quartz. The quartz phenocrysts may be embayed; the feldspar phenocrysts are a soda-orthoclase which shows Carlsbad and Baveno twinning. Riebeckite occurs as small prisms and acicular needles that form spherulites. Aegirine is present in subhedral prisms. The rock forms dykes in the Northmaven district of Shetland, and a map of their distribution (based on Phemister 1950) was published by Ritchie (1968, fig 26).

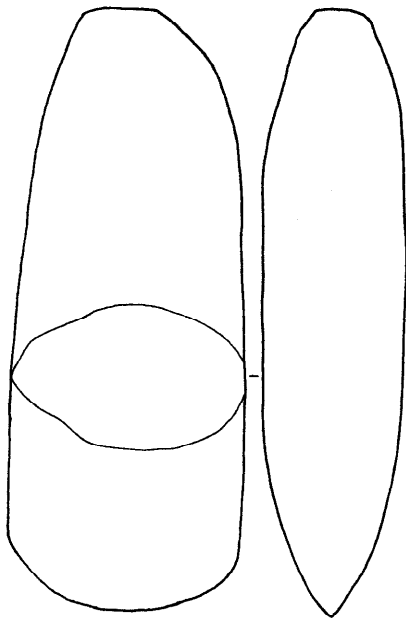
Not only is there wide variation in the petrography of these dykes (see Phemister 1950 for the whole range of possibilities), but riebeckite-free intrusions are also found. Macroscopic examination of implements in Lerwick Museum and the National Museum of Antiquities of Scotland indicates that these have also been used as source material for tool-making. Fieldwork carried out more recently has disclosed scatters of loose rock along the course of the dykes, some of it having the appearance of working. Roughouts, as yet unsectioned, have been found beside the most southerly dyke (Beveridge 1976). It is also recommended here that Group XXII is confined to the riebeckite-bearing members of the suite of dykes.

The range of products includes adzes and axes, as well as flat stone knives. Some of the axes are not only very well made, but also have splayed edges, emulating metal prototypes. These finds and their associations are detailed by Ritchie (1968). However, they are uncommon outside Shetland, and sectioning has so far resulted in only three confirmed attributions to the group - an axe from Pencaitland, East Lothian (ELT 2), and a roughout and knife from Shetland itself (SHE 1, 2). Other likely tools have yet to be examined.

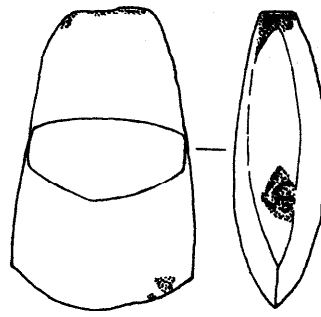
Although riebeckite is not a very common mineral, it is found in microgranites and rhyolitic rocks in several parts of Scotland. For this reason DMF 18, from near Keir, has not been placed in this group, but is being compared with other sources which are very much closer. Lacaille (1940) included Shetland feldspar porphyry in his study of fracture characteristics; it is not known whether this was our Group XXII, although it seems likely.

Group XXIV (Fig 14)

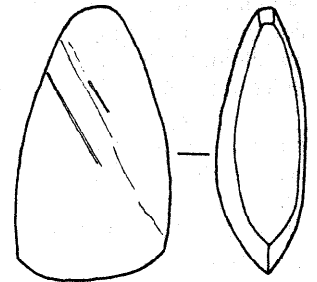
Macroscopically this is a fine-grained, green rock, usually but not always showing bands of alternating shades of green. Surviving small-scale sedimentary structures may



ABN 65

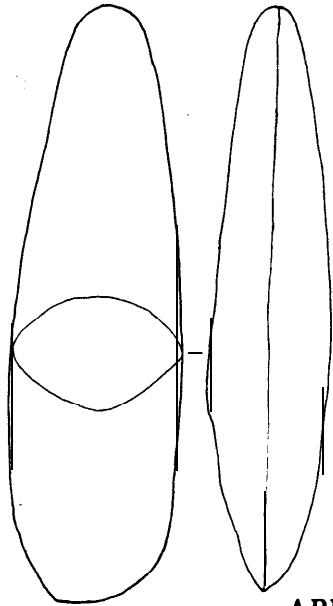


ABN 129

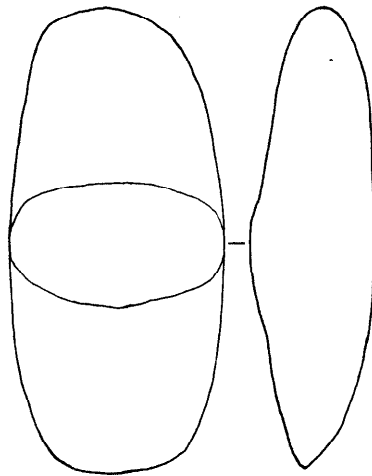


ABN 132

Group XXIV

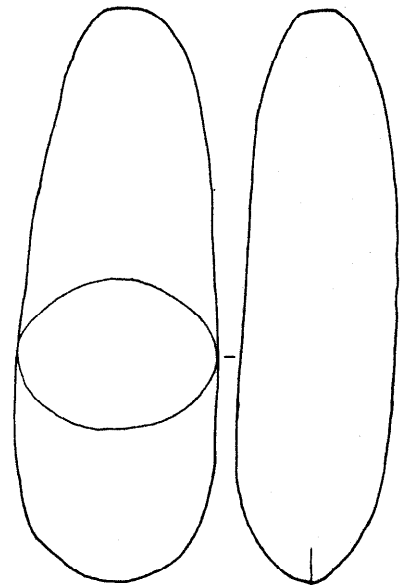


ABN 31

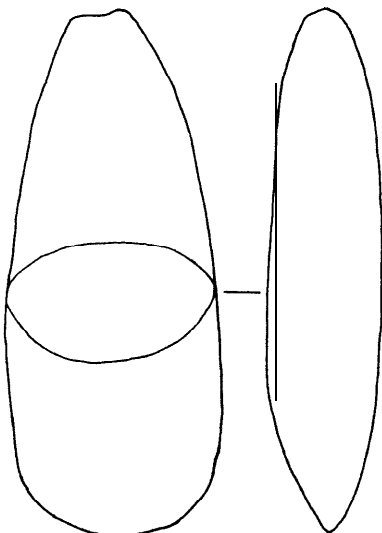


ABN 24

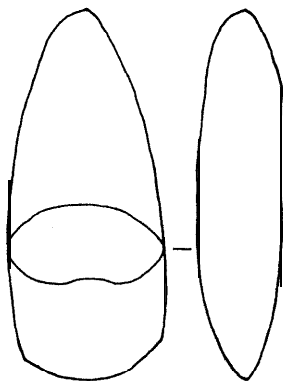
Group XXXII



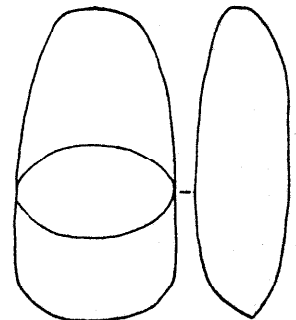
ABN 30



ABN 104



ABN 90



ABN 86

Group XXXIII

Fig 14 Axes from Aberdeenshire of Groups XXIV (top), XXXII (middle), and XXXIII (bottom)

be seen. In thin section the dominant feature is the decussate arrangement of tremolite crystals with granular zoisite and clear interstitial oligoclase. Muscovite, biotite and sphene have also been seen.

The felted mass of tremolite may be concentrated in bands, and sometimes stellate arrangements are seen. The clear, interstitial mineral is not easily diagnosed. The identification of oligoclase was obtained by Dr Holgate using X-ray diffraction on powdered samples from the factory site and from axes MRY 5 and MRY 6 from Alves and Auldearn respectively. One very distinctive variant contains porphyroblasts showing low birefringence. The optic orientation of the mineral does not bear a consistent relationship with the external form of the porphyroblasts, and it appears that chlorite has replaced the original unknown mineral without taking up any regular crystal-line relationship.

The rock comes from the southern shoulder of the hill of Creag na Caillich near Killin in Perthshire. A map of the locality and an account of the original discovery have already been provided (Ritchie 1968). A sill of appinite intruded into the Dalradian rocks has produced the contact metamorphism which gave rise to this hornfels. The sill and the metamorphism have both been described by W T Harry (1952). The sill continues eastwards, and about 30 years ago some 'rough stone tools' were found in the ground south of the sill and approximately 1 mile east of Creag na Caillich. The finds were disposed of as not being artefacts (this was before the nature of axe factory waste became widely recognized), but are likely to have been large waste flakes or roughouts (NSHEB 1953). At any rate it is worth remembering that working may have taken place anywhere along the sill where metamorphism produced suitable rock, and that there may be varieties which have not yet been recognized.

Out of the 30 confirmed implements there is one fragment of an adze - AGS 14 from Invergowrie - and all the others are axes. Flattened sides are frequent and there is a wide range of sizes from 70-240 mm in length.

The confirmations cannot yet be used to produce a meaningful distribution map. Museum visits have shown that there are unsectioned examples quite widely distributed.

Group XXXII (Fig 14)

The discovery of this new Group is due to Dr Holgate, who defined it during the course of his examination of the sections of axes from Inverurie Museum.

Macroscopically the rock is a light-brown or buff-grey colour speckled with creamy flecks. Occasionally it may be blue-grey or grey-green. In thin section Dr Holgate described it as an amphibolized plagioclase-phyric quartz-dolerite or basalt. Feldspar phenocrysts range up to 1.5 mm in length. The cores are often heavily sericitized. Quartz is found in granular aggregates, the quantity varying from section to section. The amphibole occurs as curving sheaves of small crystals, pleochroic from pale to mid-green. In some sections a non-pleochroic, pale-green mineral of low birefringence is probably a second amphibole. Opaque ore varies in abundance but is always present.

Twenty-three implements, all axes, are known from this Group so far. They do not show a wide variation in

size. Lengths range from 106-214 mm with 40% lying in the band 150-60 mm. The transverse section is rounded or oval. A high percentage are broken - again almost 40% of the total number.

At first no origin could be suggested, although Dr Holgate searched the collections of the Geological Survey for likely parallels. Further work has now shown the rock to be an epidiorite (altered dolerite) whose composition and structure suggest an origin in the Dalradian, perhaps in the area from north-east Perthshire to west Aberdeenshire and Portsoy.

Group XXXIII (Fig 14)

Dr Holgate also found this Group and, although an exact source is not known, he has been able to suggest a likely area.

Macroscopically the rock appears a light brown-grey colour with many minute, shiny flecks. Striations may be seen and some varieties also have darker grey flecks. In thin section the rock is clearly schistose and contains biotite, sillimanite, quartz and plagioclase. The relative proportions of these can vary from section to section: two (ABN 70, 90) are biotite-rich whilst in another two the sillimanite individuals are noticeably larger and more abundant. Yet another two (ABN 97, 99) contain spongy crystals of andalusite.

Dr Holgate comments (*in litt*) on the very restricted distribution within Britain of sillimanite-bearing schists which also contain andalusite. This is a feature of what is known as Buchan-type metamorphism and is found in north-east Scotland. The andalusite-bearing specimens are identified in the list as Group XXXIIIa. Dr Holgate suggested the Aberdeenshire/Banff border as a likely place of origin (Johnson 1983).

For the same reasons as with the previous group the distribution of finds is confined to Aberdeenshire at present. All of the fifteen finds are axes whose length ranges from 110-83 mm. Almost half are 120-40 mm long and more than half are 65-70 mm wide. Within maximum breadths of 55-70 mm the variation is small. One axe has squared sides, but all the others are oval or rounded in transverse section.

Ungrouped rocks

A miscellany of rocks has been encountered at one stage or another during the investigation. One particular series drew comment from Dr Holgate. They were all from Aberdeenshire and were sediments having 'features indicating thermal metamorphism of a low grade, and in all probability (they) originate in the Lower Palaeozoic sediments within the thermal aureole of one of the Caledonian "granite" masses intrusive in the Southern Uplands.'

Another has not been found in Neolithic contexts in Scotland, and hence does not appear in this List. The origin is in Ireland where it was used for axes (Lucas 1968; Herity & Eogan 1977, 40). This is the so-called Lambay porphyry, and a sufficient number of axes are known for this to have a status of a Group. The rock, of which there were early studies (von Lasaulx 1878; Gardiner & Reynolds 1898), has recently been redescribed (Stillman 1982).

Conclusion

No attempt has been made to emulate the relative frequency studies carried out by Cummins (1979) and it will be some time yet before a sound factual basis can be provided. The reason for this is to be found in the nature of the Scottish collections. There are some museums which draw almost entirely on their own territory for their archaeological collections and which can be considered as representative of their regions - Dumfries and Lerwick are typical examples. On the other hand a few larger museums - the National Museum of Antiquities of Scotland, Glasgow Art Gallery and Museum and the Hunterian Museum in Glasgow University - not only draw their collections from a wide area but have so much material that any statistical approach would be vitiated if the finds from the various museums were not considered together.

Some idea of the task involved is indicated by the national collection of 1072 individual stone axes, ie those unperforated axes or adzes which have not been found in association with anything else. To this has to be added the material from the other large museums. Another source of information is the record of the Ordnance Survey which contains nearly 1700 entries for stone implements generally for the whole of Scotland.

When these sources are viewed together, major inconsistencies emerge and require to be reconciled. The sort of discrepancy is exemplified by comparison of OS records and sectioned axes for twelve adjacent 10-kilometre squares in south-west Scotland, an area where sectioning is fairly complete.

No of items per 10-kilometre square

OS record	2	2	12	6	4	5	12	2	12	11	15	7
Thin sections	5	5	7	43	1	1	1	4	3	2	2	14

It seems then that there is little point in trying to work out relative frequencies until a better catalogue has been completed. On the other hand distributions can be used within limits to show significant factors in the archaeological record. In the same area the distribution of known Neolithic field monuments does not coincide with total axe distribution. For this reason guidance has been given on adequacy of coverage against individual groups.

In order to overcome these difficulties the task of extracting information from museum collections and the OS record is currently underway. Sectioning has been resumed, and will continue side by side with more adequate documentation.

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15 The petrological identification of stone battle-axes and axe-hammers from Scotland

MB Fenton

Abstract

A total of 190 axe-hammers and 82 battle-axes from all over Scotland were studied. The artefacts are petrologically identified -all but ten by microscopic examination of thin sections. Five new petrological groups are defined (Groups XXVII, XXVIII, XXIX, XXX, XXXI). The implements are made of a wide variety of rock types, with greywackes and basic igneous rocks especially prominent. Most of the rock types are of abundant and widespread occurrence in Scotland. A distinction is made between the geological sources (scree/outcrop sites) and the geographical sources (which include spreads of glacial erratics) of the rock types. Some changes to Roe's (1966; 1979) typological classification are detailed. The varied petrology of the implements, and the relationships between their typology and petrology, suggest that a rather haphazard exploitation of suitable-looking, locally available rock types took place.

Introduction

The major categories of British stone implements with shaft-holes were initially outlined by Sir John Evans (1897). Since then the most important contributions in this field have been those of Mrs F E S Roe (1966; 1967; 1968; 1979), which have formed a basis of all subsequent work, this included. Roe (1966; 1979) has shown battle-axes and axe-hammers to be distinct artefact types, and has constructed a typological classification of these implements. Her classification is followed here, with some alterations and additions. Roe (1966; 1967) has typologically identified many of the implements discussed in this paper.

Battle-axes appear to date from the 17th-13th centuries bc (Smith 1979, 15-16). Axe-hammers, which have no satisfactory associations, are assumed to date from the same period, because of their typological and petrological affinities with battle-axes. In Scotland only four battle-axes with good archaeological associations are known (ABN 148, AYR 23, AYR 24, FIF 9: see list). The sequence of forms implied by the associations is consistent with the chronological development of battle-axe forms suggested by Roe (1966; 1979).

A large number of battle-axes and axe-hammers from England and Wales have been thin-sectioned and petrologically identified. Roe (1979) has compiled lists and distribution maps of those which belong to petrological groups. However until the petrology of all these artefacts is published, our knowledge in these two countries will remain incomplete.

The subjects of this paper are those battle-axes and axe-hammers recorded as being found at specific localities in Scotland, and held in British museums. Over 90% have been examined in the course of the present study. This has produced more comprehensive data from Scotland and provided the first representative petrological assemblages of these artefacts for such a large area.

The implements examined have been given British Implement Petrology county numbers, and are referred to by these numbers. A complete catalogue of the implements is presented in the list of identifications. All the battle-axes and some axe-hammers are illustrated in Figs 27-38 (below). Record cards, including measurements and drawings, photographic negatives, thin sections and excess-rock samples (Fenton & Travis, ch 1) are to be lodged at the National Museum of Antiquities of Scotland.

Glossary

The following terms are defined for the purposes of this paper:

axe-factory centre of implement manufacture on, or adjacent to, the scree/outcrop site from which the blanks were obtained

blank unworked piece of stone from which an implement was, or could be, made

cobble detached rock mass, 64-256 mm in length (Wentworth 1922), somewhat rounded or otherwise modified by abrasion. The term has been extended here to include boulders up to 350 mm in length

trade prehistoric transportation of artefacts or blanks by man

Sample sizes and distributions

A total of 190 axe-hammers and 82 battle-axes were examined. All but ten of these were sampled by the coring method (Fenton & Travis, ch 1). The artefacts had received little serious petrological attention previously - only one, an axe-hammer (DMF 17), had been sectioned before.

The sizes of the samples are considered large enough to display the main petrological and typological features of the original prehistoric artefact populations. However there may well be minor variations, or potential groupings, in the original populations that do not appear in the samples.

The distributions of the artefacts sampled (Figs 15, 16) closely accord with the distributions of the total known artefacts (Roe 1979, figs 4, 5). A number of factors may cause local variations in the conditions affecting discovery of stone implements (Cumrins 1979, 5). All the artefacts sampled were chance finds, except for nine battle-axes (ABN 148, ABN 149, AGS 16, AYR 23, AYR 24, FIF 9, LNK 32, MLT 9, PER 40) which have some sort of archaeological association. These nine have such a wide distribution that they scarcely alter the overall pattern of battle-axe finds. There is no evidence in Scotland to suggest that modern factors have had a significant effect on the distributions.

There is one big concentration of artefacts - that of axe-hammers in south-west Scotland (Fig 16). Over 66% of the axe-hammers examined come from Wigtonshire, Kirkcudbrightshire and Dumfriesshire (Dumfries & Galloway). This concentration is so large that there can be little doubt that it is an original, prehistoric feature of the distribution pattern. This western concentration of axe-hammers continued southwards into England (Roe 1979, fig 5), where it has been shown by Cummins (1980, 49-50) to be an original feature, by plotting the relative frequency of axe-hammers and axes - both largely chance finds. Applying the same method to chance finds of battle-axes and axe-hammers in Scotland (Fig 17), the south-western concentration is similarly found to be original.

Elsewhere both types of artefact are scattered in roughly equal numbers (Fig 17) over most low-lying mainland areas, both - but especially axe-hammers - petering out to the north and west. There is nothing to suggest that the distributions of either the battle-axes or the axe-hammers sampled are not broadly representative of the respective total prehistoric populations.

Geological and geographical sources

No axe-factories that produced battle-axes or axe-hammers are known although, as Shotton (1968, 487) observes, if they exist they would be very difficult to find. Theoretically blanks for these artefacts may have been taken from outcrops and adjacent scree, or from deposits of cobbles, the latter including glacial erratics. During the present study much evidence has accumulated to suggest that most Scottish battle-axes and axe-hammers were made from cobbles (Fenton 1983). Scotland was glaciated several times during the Quaternary (Sissons 1976) and contains common and widespread deposits of boulder clays and glacial gravels, especially in low-lying regions

(Geological Survey Ten Mile Map, North Sheet, 1 edn (Quaternary) 1977). Most of these deposits could have yielded blanks.

In such circumstances it is important to distinguish between the geological and geographical sources of an artefact, or group of artefacts. The geological source is the extent of the outcrop of the appropriate rock type. The geographical source includes the outcrop and the spread of glacial and other deposits containing significant quantities of blanks of the appropriate rock type. Because battle-axes and axe-hammers were mainly made from cobbles, they are derived from geographical rather than geological sources.

The number of glacial erratics derived from a geological source is usually greatest near that source. 'Downstream' from the source the number of erratics tends to decrease, and their distribution to fan out to some degree. This is neatly illustrated by the distributions of the distinctive erratics from the Lennoxtown essexite intrusion (MacEwan Peach 1909). Unfortunately distributions of erratics may be more complex than this. Different glaciations may have transported rock from the same outcrop into different areas; erratics may have been derived from outcrops now under the sea, or under subsequent deposits; and boulder clays or cobble-deposits may have been reworked by later glacial and/or fluvial or marine action. Add to this the fact that boulder clays, although very common, vary in the quantity and quality of the erratics they contain, and it can be seen that the arrows indicating the directions of glacial flow on the distribution maps (Figs 18a, 19a, 20-2) offer only a general indication of the extent of geographical source. Data concerning the major directions of Quaternary ice-flow were mainly taken from Sissons (1976, fig 5.1), Charlesworth (1926) and Eyles *et al* (1949, fig 19). Distributions of the rock types shown were taken primarily from the Geological Map of the United Kingdom (1:625 000; North Sheet, Institute of Geological Sciences, 3 edn Solid, 1979).

Petrological groups

That a series of artefacts should be made mainly from cobbles has important implications, not only for the source areas of artefacts, but also for their petrological grouping. Exploitation of cobble deposits for blanks is far less specific of rock type than exploitation of scree/outcrop sites, especially in areas of recent glaciation. Cobbles were probably selected on the basis of freedom from flaws, toughness, texture, colour, size, shape and other physical properties (Fenton 1983, 55-77). It is possible, in an area as geologically diverse and glaciated as Scotland, to find many cobbles in a given river-bed or storm-beach that are suitable as blanks but have widely differing petrologies - as diverse, for example, as greywacke, lamprophyre and epidiorite.

In such circumstances petrological grouping might seem pointless. The commoner rock types used in Scotland have large, and often overlapping geographical source areas. However even these geographical source areas are finite, and valuable archaeological information may be gained by plotting these against artefact distributions.

The petrological groups associated with known axe-factories are highly individual, because not only are they

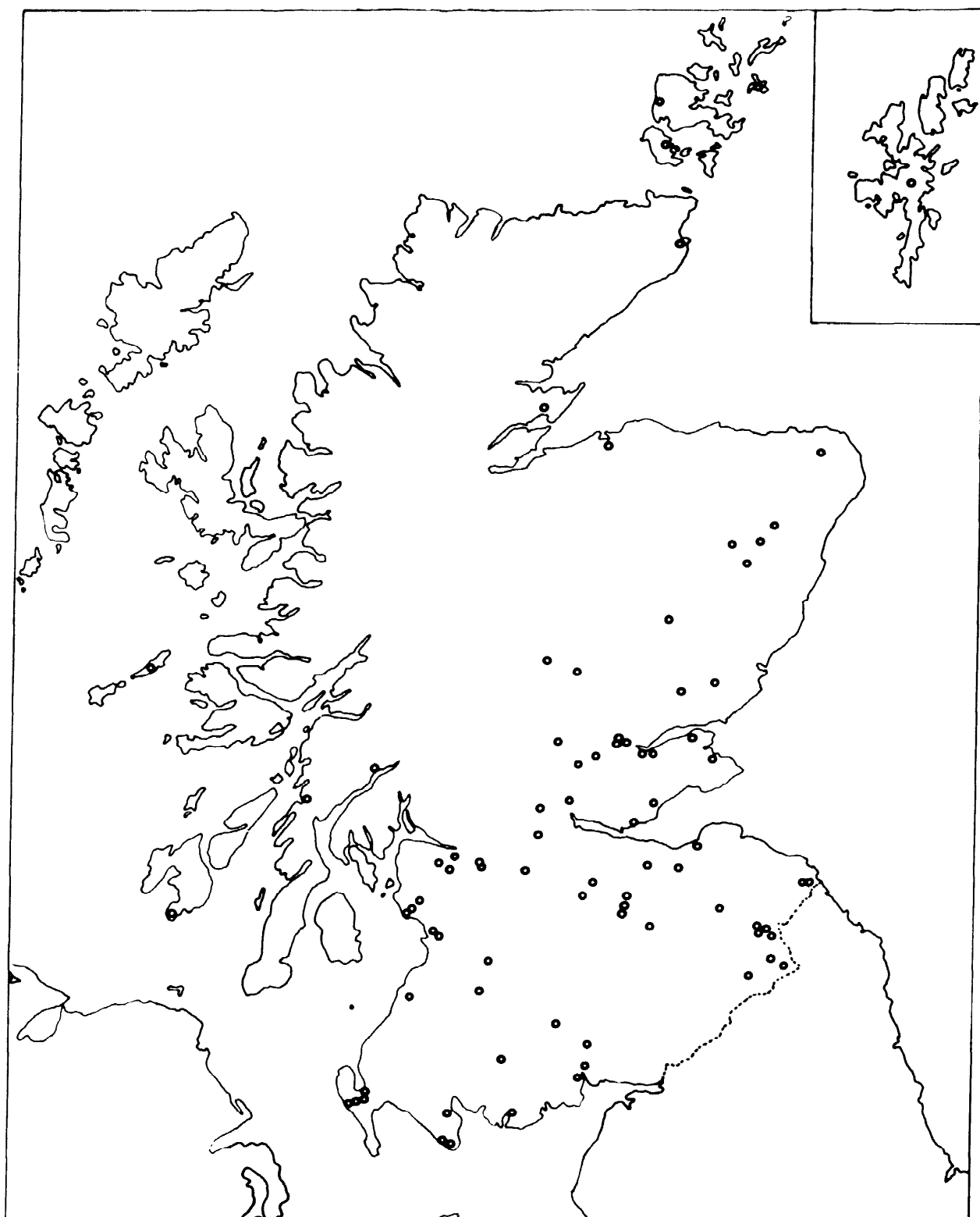


Fig 15 Distribution of the sampled battle-axes

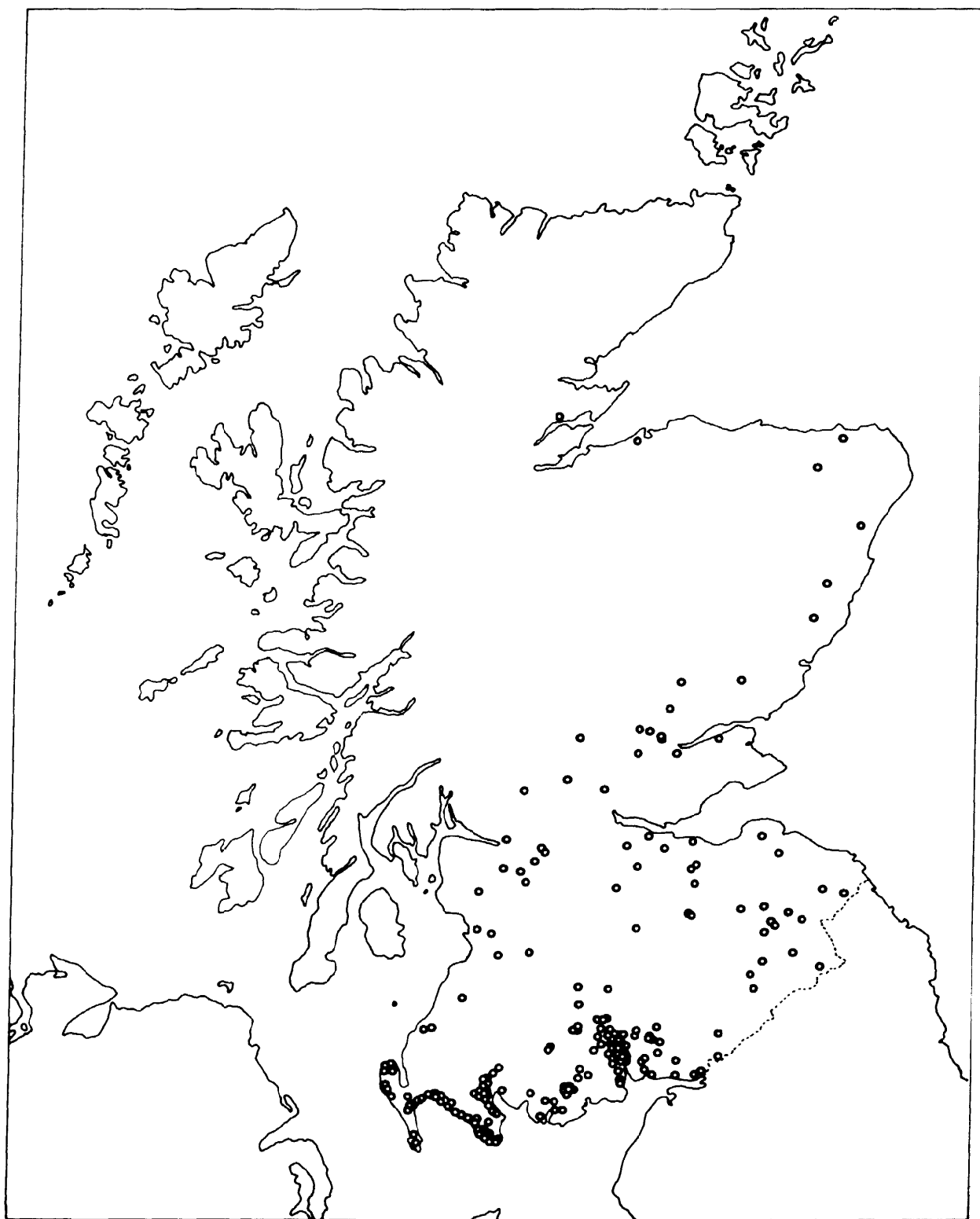


Fig 16 Distribution of the sampled axe-hammers

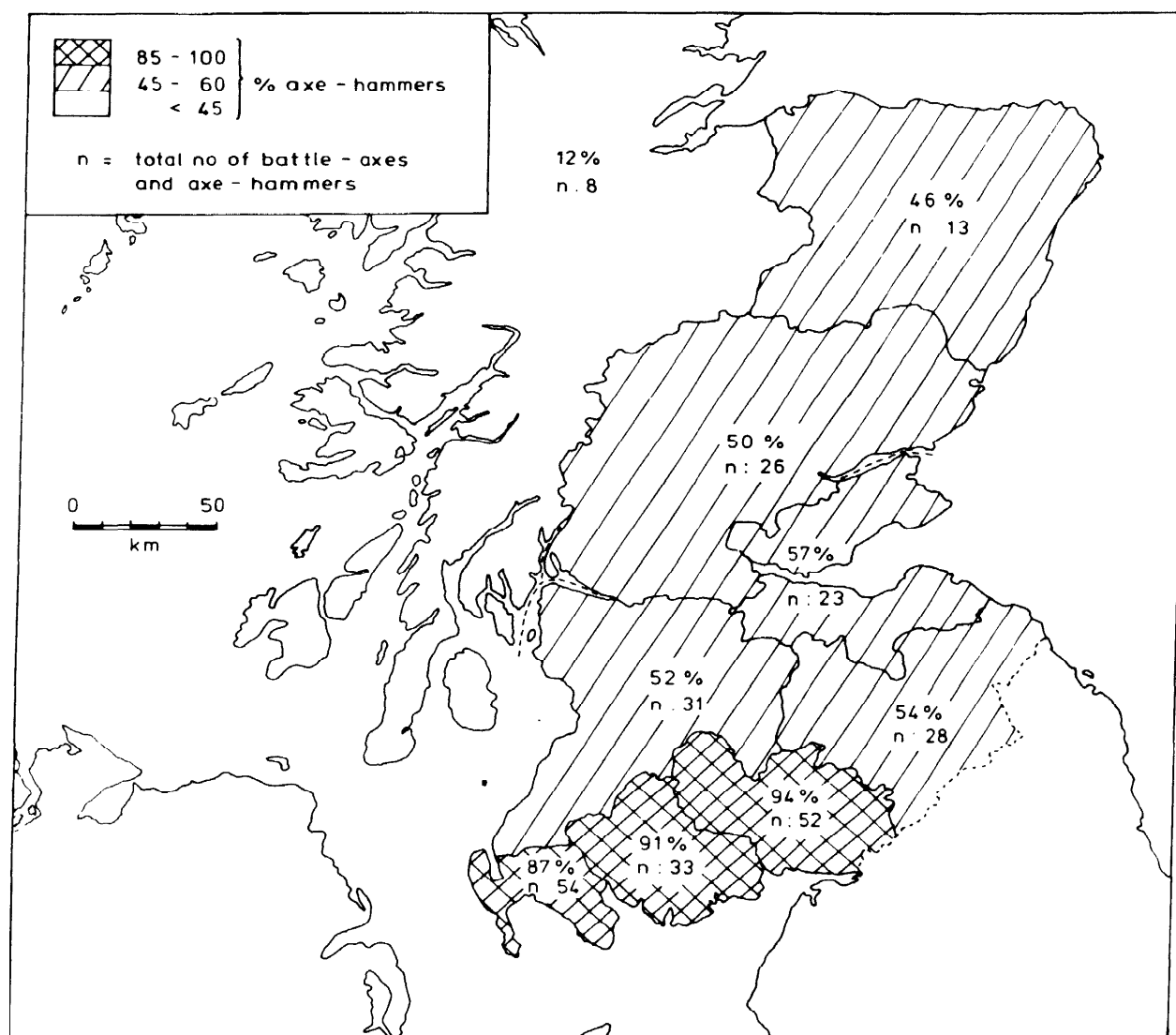


Fig 17 Relative frequency (%) distribution map for chance finds of battle-axes and axe-hammers

based on the working of limited outcrops, but that working is highly selective. Thus at Graig Lwyd (Group VII), where a granophyre intrusion was exploited, only the chilled margin was used because of its good flaking properties. Similarly at Tievebullagh (Group IX), only the porcellanite, and not the dolerite that caused the metamorphism was exploited.

One would not expect to find such highly individual groups of relatively rare rock types among artefacts made from cobbles; nor were any such groups recognized during this study, except for Group XXXI, which has but three members. Instead there are broader petrological assemblages of commoner rock types.

Of the 272 implements examined, only 21 can be identified with established petrological groups: one Group XII, ten Group XV and ten Group XVIII. These groups have generally been associated with sources in England and Wales (Shotton *et al* 1951; Shotton 1959; Evens *et al*

1962), but equally likely geological sources for these implements can also be found in Scotland. The multiplication of sources for petrological groups is an inevitable consequence of increasing the area of study.

Five new petrological groups (Groups XXVII, XXVIII, XXIX, XXX, XXXI) have been distinguished among the implements studied, two of these containing sub-groups. Some of the finer-grained members of Group XXVII are indistinguishable from Group XV, and some members of Group XXVIII are also members of Group XVIII. For such implements a dual identification is given in the list. The new groups have been defined where several artefacts have such similar distinctive petrology as to all be derived from a particular geological source. The purpose of creating, and subdividing, these groups was 1) to facilitate the presentation of petrological information; 2) to delimit, as far as possible, the geographical sources for their constituent artefacts.

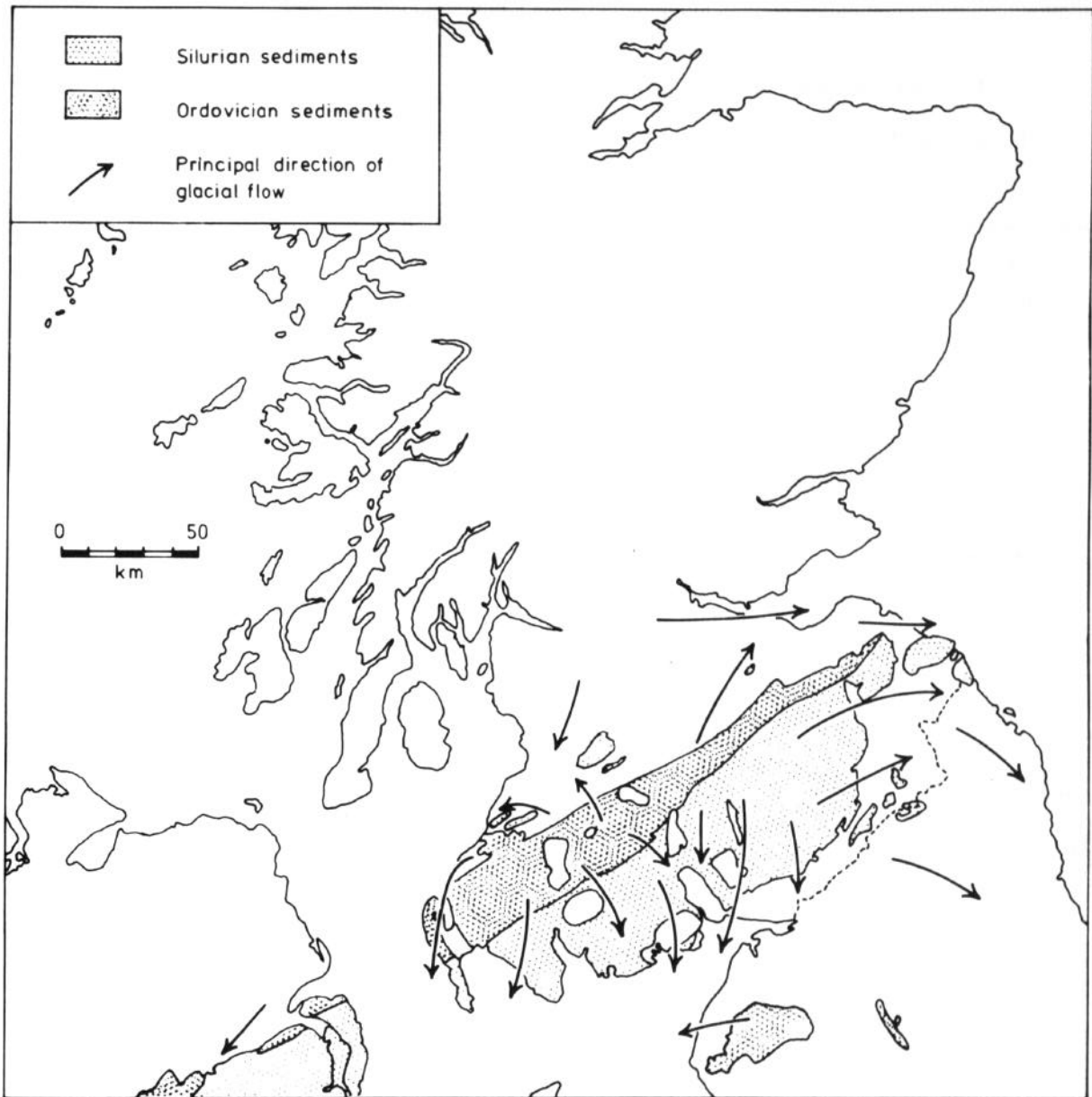


Fig 18a Major sources of Group XXVII greywacke

Group XII: picrite

Implements of Group XII rock were first recognized in southern Britain (Shotton *et al* 1951). The Cwm-mawr picrite, on the Shropshire-Montgomeryshire (Powys) border, was identified as the most likely geological source of these implements. The distributions of battle-axes and axe-hammers of this group are consistent with such a source.

One of the Scottish battle-axes examined (FIF 8) proved to be of Group XII picrite (Fig 42e). This identification has been confirmed by Professor Shotton. The closest geological sources to the findspot of this implement are among the picritic facies commonly developed in the Carboniferous alkaline dolerite sills of the midland valley of Scotland (MacGregor & MacGregor 1948, 65-6). These are potential sources for any implement of Group XII rock found in Scotland,

including FIF 8. However it is also possible that this battle-axe was traded from central England.

No other battle-axes or axe-hammers of Group XII rock were encountered during this study. This is perhaps a reflection of the great abundance of other suitable rock types in Scotland. In contrast the Cwm-mawr picrite is one of the few outcrops in or near central England that is of a rock type suited to the manufacture of these artefacts.

Group XV: micaceous sub-greywacke

Group XV was defined by Shotton (1959, 137-8) when working on implements found in southern Britain. Shotton was 'inclined . . . to think that Group XV should be referred to the southern third of the Lake District, though it may yet be proved that the southern uplands of Scotland can also produce a similar match.' Such a match was demonstrated during this study. Samples were taken

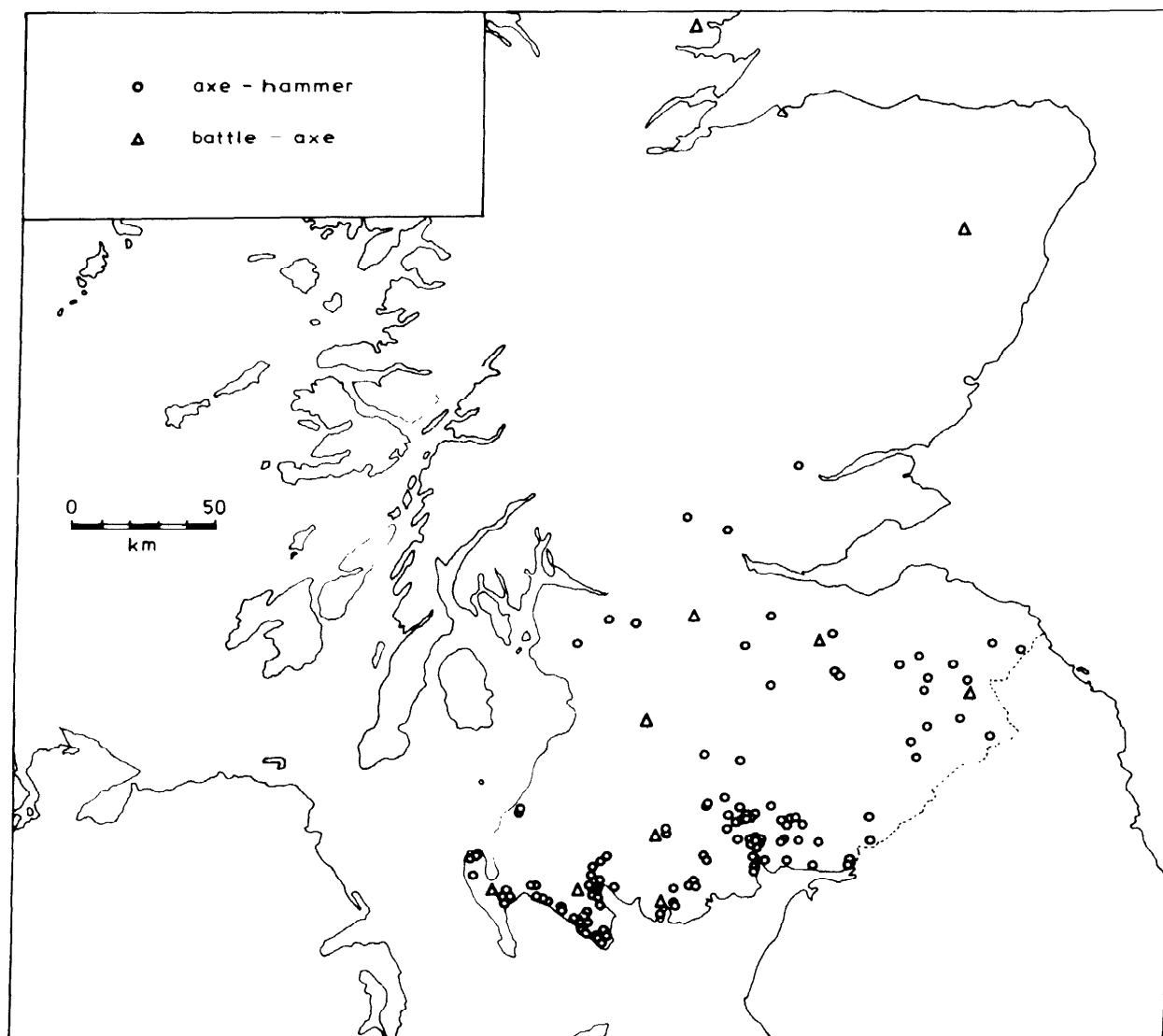


Fig 186 Distribution of implements of Group XXVII greywacke

from outcrops at two localities in the southern uplands - the Scar Valley (OS Grid ref NS 7801) and the Cappercleuch region (NT 1722). Both areas yielded specimens of Group XV rock.

Group XV, described by Shotton as a micaceous sub-greywacke, is a common rock type in the Coniston Grit of the southern Lake District. In the southern uplands, however, it is subordinate to the much more abundant coarser greywackes. Group XV rocks grade imperceptibly into these coarser greywackes, and into other, finer-grained greywackes from this area. In a Scottish context, therefore, Group XV forms a small part of a larger new Group (XXVII), which is described below.

Ten axe-hammers (BRW 5, DMF 66, DMF 75, DMF 78, DMF 79, DMF 80, MLT 8, ROX 6, WIG 101, WIG 121) were identified as being of Group XV, and therefore also of Group XXVII rock. The nearest geological sources

to the findspots of these implements are the Ordovician and Silurian sediments of the southern uplands (Fig 18a). It is likely that most of these axe-hammers were made from cobbles derived from these outcrops.

Group XVIII: quartz dolerite

Artefacts of Group XVIII rock were first reported from south-west England (Evens *et al* 1962,224). Since then the geological source of these implements has generally been considered to be the Whin Sill of northern England.

During this study a large number of thin sections from the Permo-Carboniferous quartz dolerite intrusions of northern England and Scotland (Fig 19a) were examined. The Whin Sill was confirmed as much the largest single geological source for Group XVIII. However it became evident that Group XVIII quartz dolerites could also be obtained from the finer-grained parts of some other large

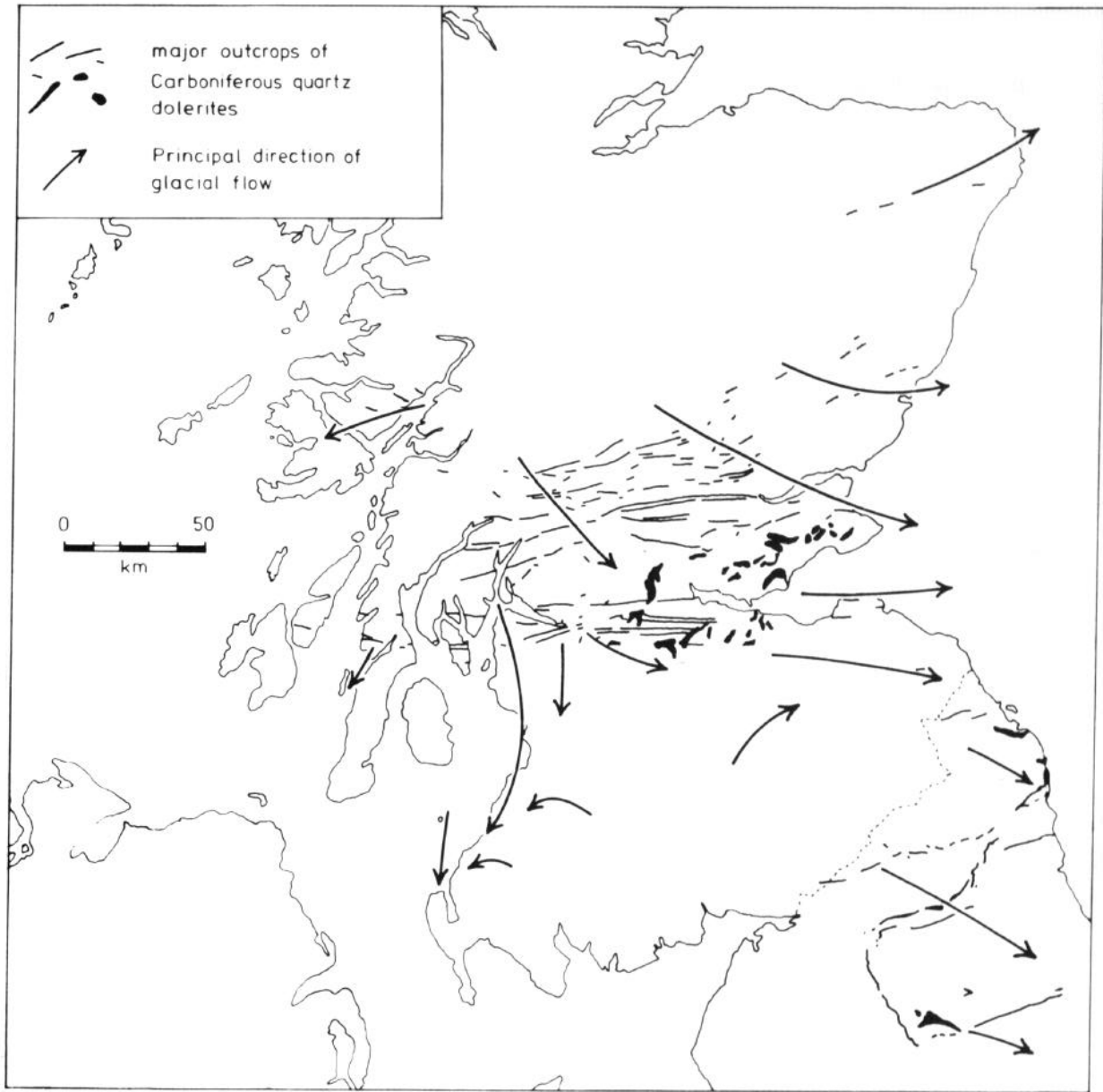


Fig 19a Major sources of Group XXVIII quartz dolerite

intrusions, and from some minor dykes of this igneous suite. The status of these as geological sources is difficult to determine; usually it is the coarser parts of intrusions that are sectioned, and the smaller intrusions are rarely sampled, or even recorded. It is likely that collectively these sources are important. The potential geological source of Group XVIII may therefore be extended over the entire area of Permo-Carboniferous quartz dolerite intrusion (Fig 19a).

Group XVIII quartz dolerite is only one variety, albeit a common one, of the quartz dolerites of the Permo-Carboniferous suite. There is no 'natural break', compositional or textural, between Group XVIII and these other quartz dolerites. Nor can Group XVIII be separated in terms of geological source from these other varieties, although it is relatively more common in the Whin Sill. In Scotland there is a much smaller proportion of Group

XVIII rock in most of the Permo-Carboniferous quartz dolerite intrusions. In a Scottish context, therefore, Group XVIII is part of a new and larger quartz dolerite group (Group XXVIII), described below.

One axe-hammer (LNK 25) and nine battle-axes (AYR 27, BRW 10, DMF 81, ELT 9, LNK 30, MLT 11, PER 33, ROX 12, WIG 147) were identified as belonging to Group XVIII, and therefore also to Group XXVIII.

Group XXVII: greywacke (new group)

These rocks are poorly sorted sandstones, with a continuous increase in grain size from the smallest particles upwards. They are true greywackes, as defined by Pettijohn *et al* (1972). The coarsest grains observed in thin section were about 2 mm across, but this need not be an upper limit.

The constituents of the greywackes were divided into

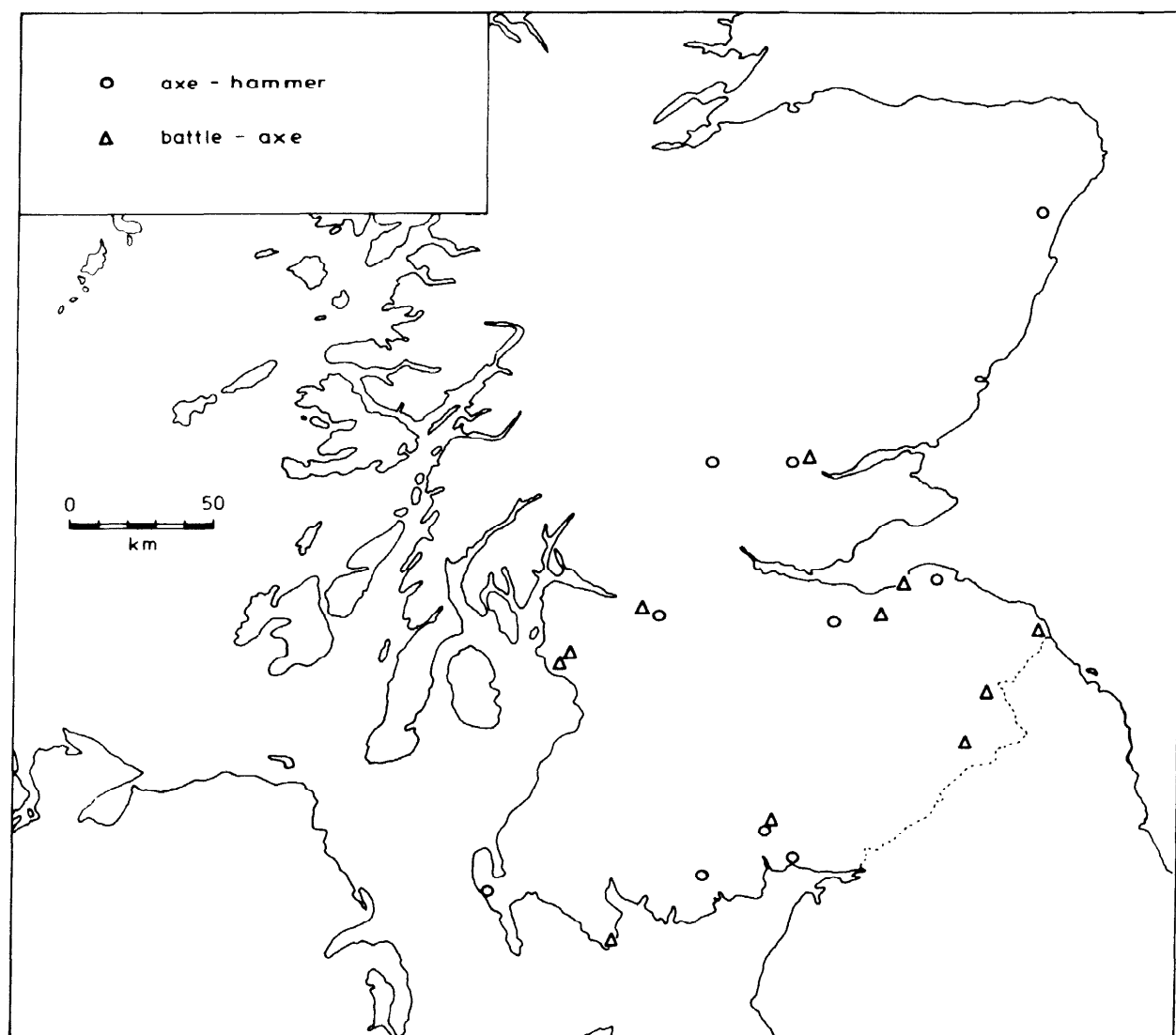


Fig 19b Distribution of implements of Group XXVIII quartz dolerite

nine categories: quartz, feldspar, ferromagnesian minerals, acid igneous, basic igneous, sedimentary and metamorphic lithic grains, free carbonate and matrix. The matrix component consists of all grains less than 20 mm across, and also includes detrital chlorite, micas and opaque minerals. This is in accordance with the practice of greywacke researchers in the southern uplands, first used by Walton (1955) and followed by others (eg Kelling 1962; Warren 1963; Rust 1965). The greywackes were all point-counted, 500 points counted per section, to determine the proportions in which these nine categories of grain types are present in each rock. Detrital micas were later counted separately in volcanic greywackes.

The results of the modal analyses indicated a wide range of compositions, which form a continuously varying series. It has been shown (Welsh 1967) that while modal analyses of these rocks are of value to a single worker using

his own data, operator variance severely limits direct comparison between workers. Divisions cannot, therefore, be based on modal analyses, unless the critical components are readily and consistently recognizable. The large range of minerals and lithic fragments to be found in each greywacke render this, as well as division on the basis of qualitative data, very difficult. The variation in average grain size, which affects the compositions of sand-fractions, is a further complication. Despite these problems, a limited subdivision of the greywackes was possible, although none was sufficiently distinctive petrographically, or restricted geographically, as to merit separate group status.

Compositionally the greywackes range from quartz-rich varieties (Fig 39a) to rocks whose sand-fractions consist mostly of basic volcanic material (Fig 39c). The matrix varies somewhat in composition, and is difficult to

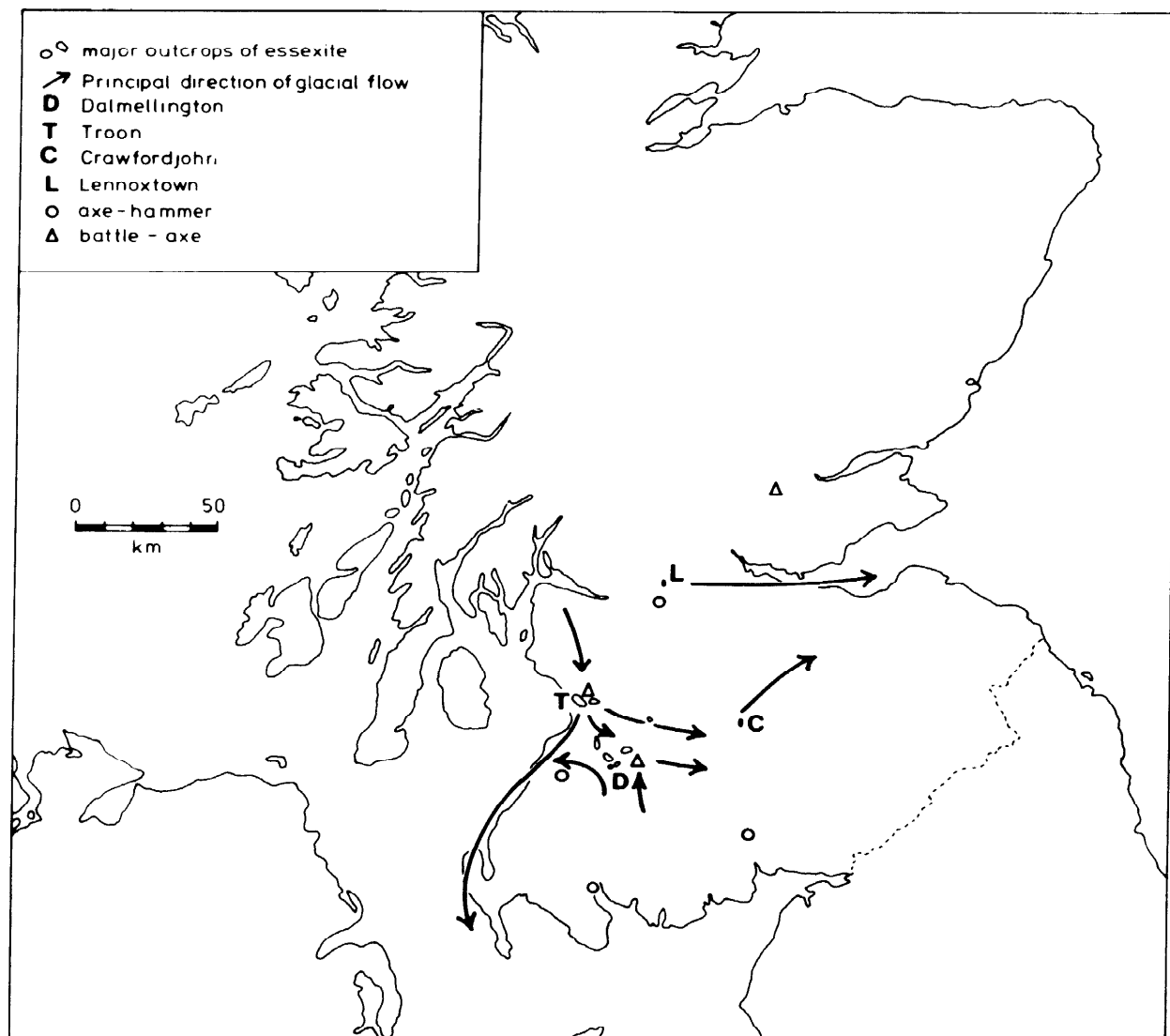


Fig 20 Major sources of Group XXIX essexite, and distribution of implements of Group XXIX rock

resolve, but generally consists of chlorite, clay minerals and silt-sized particles, mostly quartz and feldspar. Secondary carbonate is often present. Quartz is the dominant sand-grain constituent in most of the greywackes, and may account for over 50% of the total rock. Plagioclase and alkali feldspars, the latter usually turbid, are always present in some quantity, as are detrital micas, with muscovite being more common than biotite. Lithic fragments are always common, and their nature, even within a section, is very varied. The most frequently encountered are grains of polycrystalline quartz, fine-grained igneous rocks, mica-schists, mudstones and slates.

The quartz-rich greywackes pass insensibly into varieties that contain increasingly large proportions of lithic grains. In many sections there are large quantities of metamorphic fragments, metaquartzites usually domi-

nant over mica-schists. Some of these rocks also contain grains of garnet (Fig 39b). If there is, on average, more than one garnet grain, exceeding 0.25 mm across, per cm² of section, the rock is designated XXVIIg.

Quartz-rich and metamorphic-rich greywackes also pass into rocks that are progressively richer in volcanic material, especially fragments of fine, basic igneous rocks, often accompanied by broken euhedra of pyroxenes and amphiboles, and grains of epidote (Fig 39c). As the amount of volcanic material increases, the proportion of quartz falls off rapidly, and detrital micas may almost disappear. The most volcanic-rich greywackes - those with more than 10% of volcanic lithic fragments and 2% of amphibole, pyroxene and epidote grains, and less than 30% of quartz grains and 1.5% of detrital micas - are designated XXVIIv. The percentages are all based on whole-rock modal analyses and, since the latter three

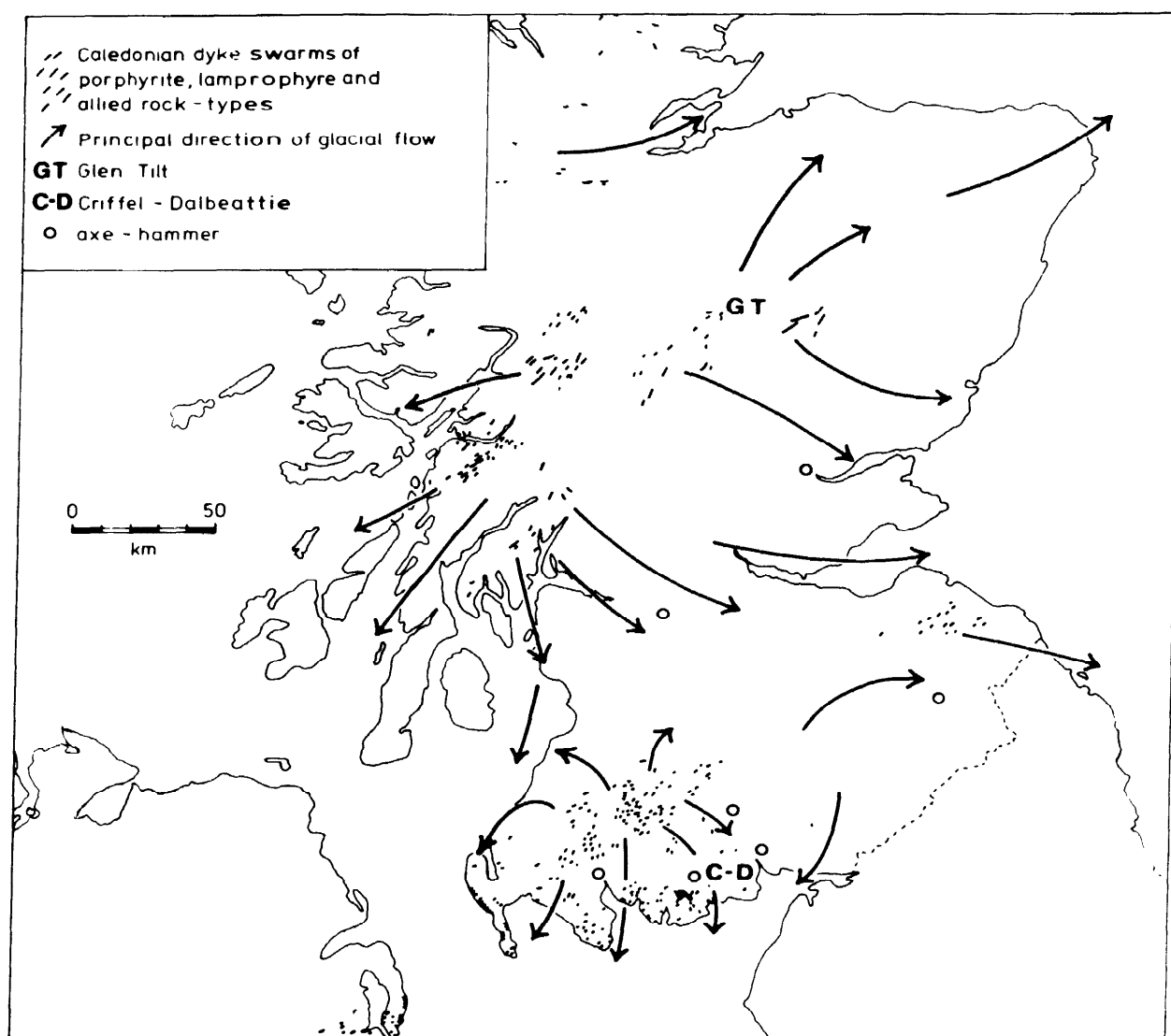


Fig 21 Sources of Group XXX hornblende lamprophyre, and distribution of implements of Group XXX rock

components are readily recognized, operator variance is minimized.

The definitions of these two sub-groups are, in petrological terms, quite arbitrary. There is no 'natural break' between members of XXVIIg or XXVIIv and the main body of the group, the undifferentiated members of Group XXVII. One subdivision was possible on qualitative grounds. Most of the Group XXVII greywackes are unmetamorphosed, but a few display the effects of thermal metamorphism. These contain varying amounts of small, secondary biotite flakes in their matrix and sometimes in their lithic fragments, and are designated XXVII_m. Apart from these, greywackes with incipient or developed metamorphic fabrics, such as may be seen in some members of Group XIX, are excluded from Group XXVII.

The harder sand-grains of the greywackes, particularly

quartz, are usually subangular, but softer particles are often more rounded. The weakest grains, such as detrital micas, mudstones and mica-schists, may be squeezed and deformed after deposition. Fragments such as these are often tabular in form, and so display a preferred orientation in thin section. Bedding may be seen in some thin sections and hand-specimens, especially in the finer-grained rocks.

The greywackes of Group XXVII are almost certainly of Ordovician and Silurian age. Sediments of these periods outcrop extensively in Wales, the Lake District, and the southern uplands of Scotland, and greywacke is a prominent component in each area, especially the last. Many Group XXVII rocks, especially the quartz-rich members, could have come from any of these areas. However it is likely that the bulk of the implements made from Group XXVII rock that are under consideration here

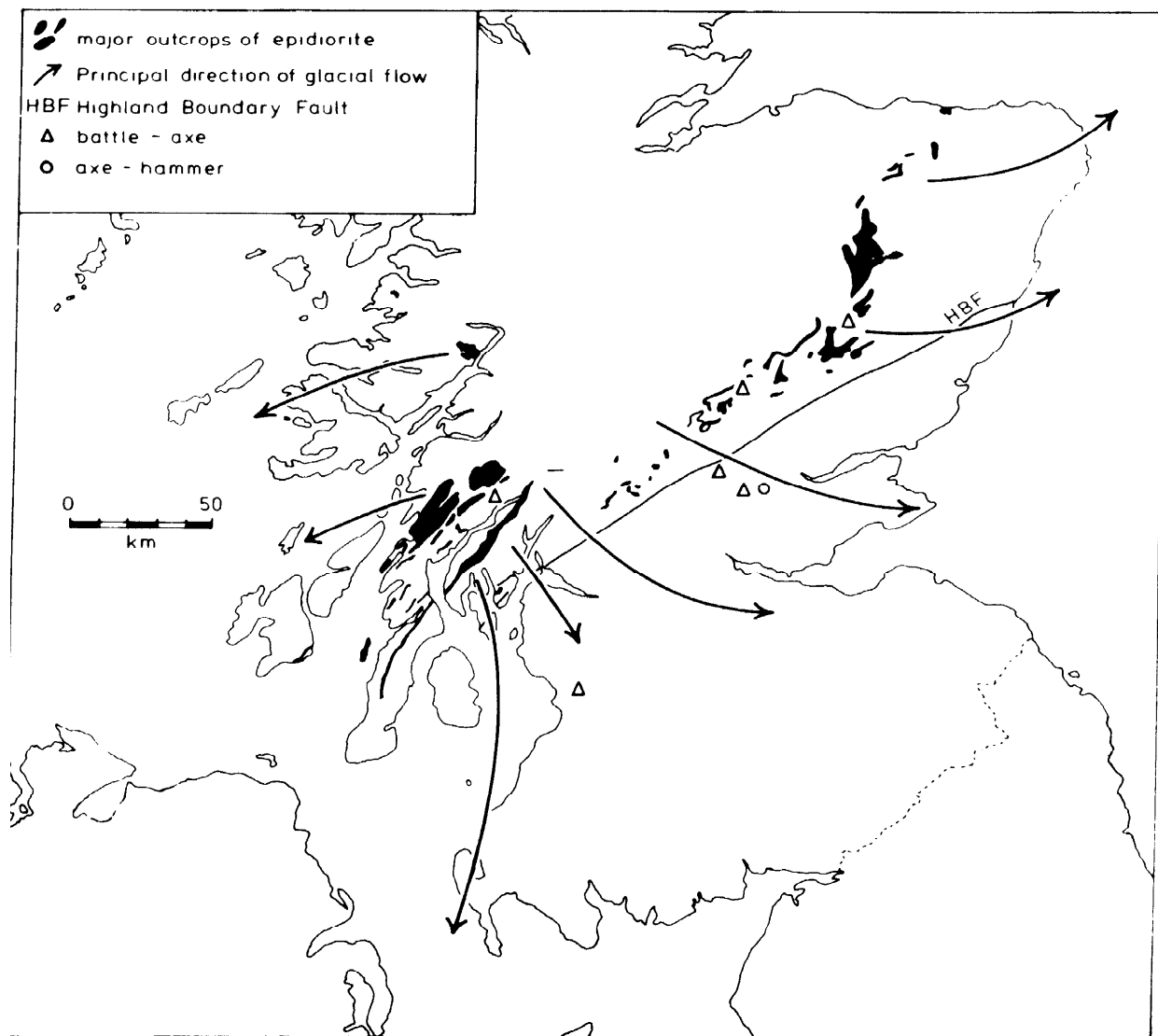


Fig 22 Major sources of epidiorites, and distribution of implements of garnet amphibolite, epidote amphibolite and low-grade metadolerite

have their geological source in the vast southern uplands outcrop (Fig 18a), the only area that could provide all the varieties contained in Group XXVII. A few of the implements may be derived from outside the southern uplands, particularly the Lower Palaeozoic inliers of the midland valley, and the Lake District. Outcrops of the post-Arenig grits of the Highland border are limited, and these rocks do not, it appears, resemble the Group XXVII greywackes (Anderson 1946, 486; Walton 1965, 169-70).

Many of the finer-grained greywackes grade imperceptibly into sub-greywackes of Group XV type (Fig 39d), and, as mentioned earlier, these are included within the range of Group XXVII. Greywackes of XXVIIv type are derived chiefly from some formations within the Ordovician of the southern uplands (Fig 19a), especially the

Marchburn, Scar, and Pyroxenous Group - Blackcraig Formations (Gordon 1962, Kelling 1962, Walton 1955). The geological source of greywackes of XXVIIg type is less certain, but some specimens are likely to have come from the Lower Silurian Garnetiferous Formation (Walton 1955), the nature and extent of which are still not fully known.

Many of the remaining rocks of Group XXVII could be derived from almost any part of the Silurian or Ordovician in the southern uplands, since quartz-rich greywackes can occur even in formations typified by volcanic greywackes. Most of the quartz-rich greywackes are, however, likely to come from the Lower and Mid-Silurian formations (Rust 1963; Walton 1965) with some from the Afton and Shinnell Formations of the Ordovician.

Table 33 Petrological groups from Scotland

Group		Sub-group	Rock-type	No of axe-hammers	No of battle-axes
XII			picrite	-	1
XXVII	(includes Group XV)		greywacke	119	10
		-	undifferentiated	93	9
		XXVII(g)	garnetiferous greywacke	11	-
		XXVII(m)	thermally altered greywacke	2	-
		XXVII(v)	volcanic greywacke	13	1
	'near XXVII'	-	-	7	-
XXVIII	(includes Group XVIII)		quartz dolerite	10	11
		-	undifferentiated	5	11
		XXVII(c)	coarse-grained quartz dolerite	5	-
	'near XXVIII'	-	-	2	4
XXIX		-	essexite	4	3
	'near XXIX'	-	-	1	1
XXX		-	hornblende lamprophyre	7	-
	'near XXX'	-	-	1	-
XXX1		-	basic andesite	-	3
Totals				151	33
other (ungrouped) rock-types				39	49
Totals				190	82

The outcrops of the various southern upland greywacke formations are usually 1-10 km wide, but extend between 150 and 200 km along the strike. Under these circumstances sourcing of Group XXVII rocks to individual formations, even if it were possible on any scale, would be of limited value.

A total of 119 axe-hammers - 63% of all the axe-hammers sampled - are of Group XXVII greywacke (Table 34). A further seven axe-hammers are of closely similar (near XXVII) rocks, and these have the same general provenance. In contrast only ten battle-axes - 12% of the total examined - are made of Group XXVII greywacke.

Ten axe-hammers (BRW 5, DMF 66, DMF 75, DMF 78, DMF 79, DMF 80, MLT 8, ROX 6, WIG 101, WIG 121) belong both to Group XXVII and Group XV. Thirteen axe-hammers (AYR 18, DMF 38, DMF 41, DMF 44, DMF 54, DMF 59, DMF 77, KRK 28, LNK 28, REN 8, WIG 103, WIG 111, WIG 115) and one battle-size (ABN 145) are made of rock of XXVIIv type. Eleven axe-hammers (BRW 4, CLK 1, DMF 55, DMF 63, DMF 68, KRK 29, KRK 45, KRK 52, ROX 3, WIG 120, WIG 136) are made of XXVIIg rock, and two (DMF 36, ROX 9) of XXVIIm rock.

Group XXVIII: quartz dolerite (new group)

These rocks are similar mineralogically, but of varying grain-sizes and textures. They always contain, in order of abundance, plagioclase feldspar, augite, opaque minerals and accessory apatite and quartz.

The plagioclase feldspar may be present as one or more species, the dominant type being near-labradorite (An 60) in composition. In addition to augite, pigeonite often occurs, sometimes as elongate, twinned laths, with herring-bone exsolution lamellae (Fig 40c), but more

commonly as smaller grains, often mantled by augite. Orthopyroxene is frequently present, most often in the form of sparse phenocrysts which are only a little larger than their groundmass (Fig 40a). The major opaque mineral is ilmenite, but some pyrite may be present. The quartz is interstitial, and present in varying, but usually very small amounts. Alkali feldspar, chloritic material and biotite may also occur in small quantities. Some clinopyroxenes may have marginal growths of amphibole. Interstitial micropegmatite is very common. In some of the fine-grained quartz dolerites much of the interstitial material is brown and near-opaque, and was perhaps originally glass.

Alteration is common, but never so advanced as to mask the texture of the rocks. Feldspars are usually altered in some degree to clay minerals. Pyroxenes decompose to a variety of green and brown products, with pigeonite and orthopyroxene altering before the augite. Some secondary quartz and carbonate may be developed.

Textures vary considerably, from fine-grained rocks, often with granular pyroxenes and sometimes altered

Table 34 Relative proportions of petrological groups from Scotland

Petrological group	Axe-hammers	Battle-axes
XII picrite	-	1(1.2%)
XXVII greywacke	119 (62.6%)	10 (12.2%)
XXVIII quartz dolerite	10 (5.3%)	11 (13.4%)
XXIX essexite	4 (2.1%)	3 (3.7%)
XXX hornblende lamprophyre	7 (3.7%)	-
XXX1 basic andesite		3 (3.7%)
Other rock types	50 (26.3%)	54 (65.8%)

interstitial glass, through medium-grained varieties, some ophitic or sub-ophitic, to coarse, non-ophitic dolerites. Many of the finer-grained specimens are indistinguishable from Group XVIII (Figs 40a, c), but there is no natural division between these and the bulk of Group XXVIII.

Rocks of Group XXVIII are almost certainly derived from the Permo-Carboniferous quartz dolerite suite of northern England and Scotland (Fig 19a), which exhibits over much of its range all the textural and mineralogical variations described above (Teall 1884a; 1884b; Holmes & Harwood 1929; Walker 1935; 1952). There is a small risk of confusion of these rocks with some Tertiary quartz dolerites.

A considerable number of quartz dolerite sections from English and Scottish intrusions were examined. The great variety of textures, grain sizes and mineralogies encountered in all regions where Permo-Carboniferous quartz dolerites occur renders most subdivision of Group XXVIII of doubtful value. As stated earlier, it seems likely that the finer-grained dolerites with granular pyroxenes and evenly sized feldspar laths (Group XVIII type) have their largest geological source in the Whin Sill, although such rocks may also be found over much of the area of Permo-Carboniferous quartz dolerite intrusion (Fig 19a). Quartz dolerites which contain feldspar laths of widely differing dimensions (Fig 40d) are typical of Scottish, rather than northern English intrusions.

The coarsest quartz dolerites (Fig 40b) are confined to the midland valley sill and the large east-west dykes adjacent to it (Walker 1935, 143). A sub-group, XXVIIIc, was formed, because of the geographically limited occurrence of these rocks. It includes any quartz dolerite of Group XXVIII which contains more than fifteen plagioclase laths per cm² whose maximum breadths exceed 0.25 mm. Pegmatitic facies of the Whin Sill are quite different in appearance from XXVIIIc rock.

Tholeiites, apart from the fine-grained dolerites containing some suspected altered glass described earlier, are excluded from Group XXVIII, because of the risk of confusion with some Tertiary tholeiites.

Ten axe-hammers and eleven battle-axes are of Group XXVIII rock. Of these, five axe-hammers (ABN 143, DMF 57, ELT 7, PER 28, WIG 116) belong to XXVIIIc, and one axe-hammer (LNK 25) and nine battle-axes (AYR 27, BRW 10, DMF 81, ELT 9, LNK 30, MLT 11, PER 33, ROX 12, WIG 147) are also members of Group XVIII. The remainder are DMF 62, KRK 38, MLT 4, PER 21 (axe-hammers), and AYR 24, ROX 11 (battle-axes).

Two axe-hammers (MLT 3, ELT 8) and four battle-axes (ABN 146, FIF 7, PBL 14, PER 37) were designated 'near XXVIII'. These are similar to Group XXVIII, and are likely to have the same geological source.

Group XXIX: essexite (new group)

These rocks are medium-grained, alkaline olivine dolerites, with a distinctive and fresh aspect in thin section. All were subjected to modal analysis.

Olivine is common (10-30%), and is usually present as large subhedral crystals, which are only slightly altered. This alteration may, however, produce cracking in adjacent crystals (Fig 39f). The clinopyroxene (15-35%) is also fresh, and frequently has the purplish tinge of titanite, especially at the edges of grains. The

plagioclase feldspar (25-40%) is labradoritic, and is sometimes partially altered to clay minerals. Interstitial to these three minerals are considerable quantities (10-25%) of feldspathoids and alkali feldspar. Analcite, which is always present, is often turbid. Nepheline and alkali feldspar may also occur. These last two are usually altered and difficult to identify. It is often impossible to distinguish the minerals in the more altered patches of interstitial material. Opaque minerals are always present, although never in large amounts, and apatite and reddish-brown biotite frequently occur as accessory minerals.

The textures of these rocks vary from non-ophitic to sub-ophitic, and they are sometimes porphyritic in character, with conspicuously large olivines (Fig 39e) and, in one section (AYR 28), titanite. The texture of this last approaches that of the strongly porphyritic essexites of Crawfordjohn and Lennoxton, which were, however, not encountered.

Rocks of Group XXIX are included among the Kylitic types of the Carboniferous alkaline dolerite suite (MacGregor & MacGregor 1948, 63-6). Essexites as described above only occur in one volcanic vent and a group of large sills outcropping at Benbeoch, Craigs of Kyle, Benquhat Hill, High Mount, Tappett Hill, Greenhill and elsewhere north of Dalmellington (Eyles *et al* 1949, 109-11), and in the Hillhouse Quarry Sill and parts of the Craigie Sill near Troon (Richey *et al* 1930, 271-7). The occurrence of this rock is thus limited to central Ayrshire (Strathclyde) (Fig 20) and, possibly, to the less porphyritic portions of the small intrusions at Crawfordjohn and Lennoxton.

Four axe-hammers (AYR 14, DMF 51, LNK 24, WIG 104) and three battle-axes (AYR 21, AYR 28, PER 35) are made from Group XXIX rock. One axe-hammer (AYR 15) and one battle-axe (SHE 7) are made from rocks similar to Group XXIX, but containing less olivine than is usual. These are designated 'near XXIX' and are likely to have been derived from Carboniferous alkaline dolerite intrusions, perhaps the same intrusions as Group XXIX.

Group XXX: hornblende lamprophyre (new group)

This group is comprised of hornblende lamprophyres of vogesite-spessartite type. They consist of roughly equal amounts of amphibole and feldspar, and possess textural features characteristic of hornblende lamprophyres.

The hornblende, pleochroic in shades of brown and green, occurs as euhedral crystals (Fig 40e), which may have a ragged appearance due to chlorite or tremolitic amphiboles. The feldspar is usually present as subhedral laths and irregular grains, partly altered to clay minerals and other secondary products. Both plagioclase and alkali feldspar are normally identifiable, but the alteration of each renders an accurate assessment of their relative proportions impossible without staining techniques. Apatite is always present as an accessory mineral. Small amounts of interstitial quartz and, occasionally, micropegmatite may occur. Of the secondary minerals chlorite and carbonate are always present, often in abundance. Grains of clinozoisite are sometimes frequent, and secondary quartz may be present. Opaque grains are scarce and usually of a secondary nature.

Porphyritic textures are common. Unaltered phenocrysts of hornblende, similar to that of the ground-mass are especially frequent in the finer-grained lamprophyres,

and a few partly altered phenocrysts of a colourless clinopyroxene are present in one rock (KRK 33). Other phenocrysts, perhaps originally olivines and pyroxenes, have been completely pseudomorphed (Fig 40f), mainly by chlorite.

Vesicles, irregular or rounded in shape, were seen in most sections, and are infilled with various combinations of quartz, feldspar, carbonates, clinozoisite and chlorite. In addition clots of predominantly chloritic material (Fig 40e) with very irregular boundaries are often present. Most of the rocks are of fine to medium grain, with one (BRW 6) being sufficiently coarse to be termed appinitic.

In Britain outcrops of Group XXX rock appear to be confined to Scotland, where they make up a small but significant proportion of the minor Caledonian intrusions (Richey 1939, 404). The considerable extent of basic Caledonian dykes (a broad category including lamprophyres) is shown in Fig 21, and dykes of vogesite and/or spessartite are known in all the swarms except those associated with the major intrusions at the Cheviot, Distinkhorn, Lochnagar, and a few of the northern Highland intrusives. Dykes of Group XXX rock are especially numerous in the swarms associated with the Glen Tilt and Criffel-Dalbeattie (Fig 21) intrusions (Richey 1939, 404), and in the Machars of Wigtonshire (Dumfries & Galloway) Group XXX is the commonest dyke-rock (Rust 1963, 113-18). It has not proved possible to identify members of the group with any particular swarm. The geological source for Group XXX implements is thus very extensive.

Seven axe-hammers (BRW 6, DMF 48, DMF 58, KRK 33, KRK 35, LNK 26, PER 25) and no battle-axes are made from Group XXX rock. One axe-hammer (WIG 145) displays many features of the group, and probably has the same source. It has, however, suffered extensive alteration, and is designated 'near XXX'.

Group XXXI: basic andesite (new group)

This group consists of three fine- to medium-grained rocks, composed largely of subhedral laths of plagioclase feldspar. These are near-andesine (An 40) in composition, and always partly altered to clay minerals. Opaque minerals are common, usually as small euhedral grains. These grains are often partly altered, but a distinctive outline of the original mineral often remains. Fresh accessory apatite is always present.

In all three sections the remainder of the primary minerals are completely replaced, but the following features may still be observed. There are a number of scattered, narrow, subhedral prisms, of about the same size as the andesine laths. Between the feldspars and these prisms are considerable quantities of altered interstitial material. Finally there are sparse, stumpy, euhedral microphenocrysts, whose shapes suggest they were originally pyroxenes or amphiboles. In one section (ORK 4) a partly altered feldspar microphenocryst is also present. These features, combined with the moderately strong flow structure of the evenly sized andesine laths (not visible in hand-specimen), give these rocks a distinctive appearance in thin section (Fig 41c).

The textures, grain sizes and-insofar as they can be determined - compositions of these three rocks are very similar. However alteration, while it is always extensive, is variable. In one section (ORK 3) green, mainly chloritic

minerals predominate, while in another (ORK 4) brown alteration products are most common. Both these rocks contain numerous patches of carbonate, which often replace the microphenocrysts and prisms. The third rock (ABN 148), which is reddened and friable in hand-specimen, has been extensively haematized. However at the deepest point of entry of the sampling core into this implement (Fenton & Travis, ch 1), a small area of the section bears brown alteration minerals similar to those in ORK 4.

All three implements of Group XXXI rock are large, Northern Variant battle-axes. Two (ORK 3, ORK 4) are of closely similar and unusual typology. Both have unfinished shaft-holes, and were found on Orkney. The remaining battle-axe (ABN 148), which was completed, was found in north Aberdeenshire (Grampian). The three rocks are so similar and distinctive as to suggest they came from the same geological source. The archaeological evidence suggests that this is on or near Orkney. Despite an extensive search among sections of Orcadian and, to a lesser degree, Scottish mainland volcanic and intrusive rocks, no exact match for Group XXXI has been found. However three Scottish Geological Survey sections, nos 15177, 26012 and 27713, of Late Carboniferous dykes (Mykura 1976, 96) on mainland Orkney are similar in many respects - more so than any other sections seen. The most probable geological source of Group XXXI rock is, therefore, an intrusion or intrusions of this dyke suite. If these three axes were made from glacial erratics, there is a distinct possibility that such a source is now offshore.

Ungrouped rocks

It was not possible to construct further petrological groups for the remaining 39 axe-hammers and 49 battle-axes. However numbers of these artefacts are of rocks of similar character, and may best be described collectively.

Eleven battle-axes and four axe-hammers are identified in the list as porphyritic olivine basalts or porphyritic basalts. Comparative examination of potential source material indicates that most of these rocks are derived from the Carboniferous alkaline volcanic series of Scotland and the borders. However, it is also possible that Devonian and other volcanic rocks may be represented. The descriptions that follow utilize the framework of A G MacGregor's classification (1928) of Scottish Carboniferous olivine basalts - the classification used by the Geological Survey - as it is the most convenient and appropriate. MacGregor divides the basalts into macrophyric (phenocrysts larger than 2 mm across) and microphyric (less than 2 mm across) groups, and then divides each group into three types on the basis of presence and relative proportions of olivine, feldspar and pyroxene phenocrysts.

Five battle-axes and three axe-hammers are made from microphyric basalts. Six of these (ARG 20, ARG 21, BRW 11, CLK 2, WIG 107, WIG 132) are basalts with olivine and varying, smaller amounts of feldspar microphenocrysts. These correspond with the Jedburgh and Dalmeny types of MacGregor (Figs 41f, 42a), flows of which occur in most Scottish Carboniferous lava fields (MacGregor 1928). Most of these artefact-rocks are much fresher, and some are coarser-grained than is usual in samples taken from the outcrops. One fine-grained, augite-rich basalt,

with some interstitial glass and numerous olivine microphenocrysts (AYR 16, an axe-hammer) was encountered. This is the Hillhouse type of MacGregor, which is less common than the Jedburgh and Dalmeny basalts but, like them, is widely distributed in the Scottish Carboniferous volcanic series (MacGregor 1928). Also included here is a battle-axe of feldspar-phyric mugearite (DMF 82), a rock type which is sometimes grouped with the Jedburgh basalts and which occurs frequently among the Carboniferous lavas.

Six battle-axes (AYR 23, LNK 32, MLT 10, PBL 11, REN 9, REN 11) and one axe-hammer (FIF 5) are made from macroporphyrritic basalts containing numerous phenocrysts of plagioclase feldspar up to 2 cm across and, rarely, some large olivines. They also contain varying quantities of olivine, feldspar and, rarely, pyroxene microphenocrysts. The olivines are invariably pseudomorphed (Fig 41d), and all the rocks are altered to some degree, often being albitized or with extensive replacement by opaque minerals (Fig 41e). Like the microphyric basalts several specimens have a coarser ground-mass than is usual. Olivine pseudomorphs were identified in three rocks (FIF 5, PBL 11, AYR 23), the rest containing possible olivine pseudomorphs. While the detailed petrology of these implements is diverse-only REN 9 and PBL 11 are markedly similar - all may be defined as Markle basalts under MacGregor's classification. Markle basalts are a common and widespread Carboniferous lava-type (MacGregor, 1928).

Six battle-axes and eight axe-hammers appear to be made from rocks which, like Group XXX, are derived from Caledonian intrusives. They are all dioritic, tonalitic or granodioritic in composition - full petrological names are given in the list. Three battle-axes (AGS 17, WIG 149, WIG 150) are rather coarse-grained (Fig 42d), and are probably derived from large intrusions. Five axe-hammers (MLT 7, PER 24, PER 29, WIG 108, WIG 118) and one battle-axe (DMF 83) are liner-grained (Fig 42c), and are probably derived from the margins of large intrusions, or from small intrusions. Three axe-hammers (DMF 47, WIG 134, WLT 4) and two battle-axes (AGS 16, BRW 12) are strongly porphyritic with a fine-grained ground-mass. These correspond with the 'porphyrites' of the Geological Survey, which make up the greater part of the Caledonian dyke swarms (Richey 1939, 404; and Fig 21). They sometimes occur as lavas of the same date. These fourteen implements are of rock types so diverse and so common in the Caledonian suite that it was not considered profitable or, in many instances, possible to further narrow down the area of their geological sources.

Six battle-axes (ABN 144, ARG 22, AYR 25, PER 32, PER 38, PER 40) and one axe-hammer (PER 26) are made of rocks which are here collectively termed 'epidiorites', since they correspond approximately with the epidiorites of the Geological Survey (Wiseman 1934).

In all sections ragged aggregates of amphibole predominate. Smaller amounts of epidote, quartz and feldspar, usually fine-grained, are always present, and sphene, leucoxene, biotite, and relict plagioclase and opaque minerals may occur. In two rocks (ARG 22, PER 38) the amphibole is a pale-green, actinolitic variety (Fig 41b), and these are termed low-grade metadolerites in the list. The remainder contain amphiboles which are markedly pleochroic, mainly in shades of green, often

with a bluish tinge. Two sections (ABN 144, PER 40) contain scattered grains of garnet, and are called garnet amphibolites (Fig 41a). The rest are termed epidote amphibolites. Three rocks (AYR 25, PER 32, PER 38) display relict igneous textures, while the others have completely metamorphic textures, sometimes with preferred orientation of the minerals.

Epidiorites such as these appear to outcrop only north of the Highland Boundary Fault, where they are widely distributed. The greatest concentration of such rocks is in a belt stretching from Islay to Banffshire (Fig 22), which may be considered as the major geological source.

Three battle-axes (KRK 53, LNK 31, REN 10), and one axe-hammer (AYR 17) are made from tholeiites. These vary considerably in texture and, to some extent, in composition. Three sections closely resemble tholeiites of Tertiary age, but one (LNK 31) is most similar to sections of tholeiite intrusives of the Permo-Carboniferous quartz dolerite suite.

One axe-hammer (MLT 5) and three battle-axes (ILY 3, ROX 15, STR 6) are termed 'altered dolerites' in the list. These rocks have all suffered extensive alteration, which precludes accurate identification of rock type or source. They most closely resemble altered teschenites of the Carboniferous alkaline dolerite suite, which is largely confined to the midland valley. In all four sections large augites, ophitically enclosing altered feldspars (Fig 42b), are the only grains remaining relatively fresh. In two sections (ILY 3, STR 6) a little interstitial analcite also survives. One further axe-hammer (DNB 9) is made of a comparatively fresh kaersutite-bearing teschenite, which undoubtedly belongs to the Carboniferous alkaline dolerite suite.

Four axe-hammers (AGS 15, PER 22, PER 30, REN 7) are termed 'metagreywacke' in the list. These are quartz-rich, very poorly sorted sandstones, with recrystallized matrixes in which green micas are characteristically developed. Their geological source is certainly north of the Highland Boundary Fault, probably among the Dalradian metasediments. They differ markedly from the metagreywackes of sub-group XXVIII. These last are contact-metamorphosed with small, brown, randomly oriented biotites developed. The Dalradian metagreywackes, regionally metamorphosed, usually have green secondary micas, and these are often larger than, and do not show the decussate textures of the biotites of the XXVIII metagreywackes. A further axe-hammer (ABN 141) is of a coarse, poorly sorted feldspathic sandstone with a recrystallized matrix, and another (PER 23) is of an almost completely recrystallized metasediment. Both these implements are also likely to have their geological source in Dalradian metasediments.

In addition to implements made from the rock types described above there are a further seventeen axe-hammers and twenty battle-axes made of a wide variety of other rock types. Of the axe-hammers five (DMF 42, KNC 4, KRK 39, KRK 56, WLT 3) are made from basic and intermediate igneous rocks, and two (MRY 10, WIG 106) from acid igneous rocks. WIG 106 is particularly interesting, as it is a riebeckite microgranite of a type only known from the island of Ailsa Craig. Numerous erratics of this rock occur on the Rhinns of Galloway. Six axe-hammers (AYR 29, DMF 49, KNC 5, KRK 25, ROS 2, WIG 152) are made from widely differing metamorphic

rocks. One axe-hammer (DMF 52) is made from a fine sandstone which has affinities with Group XXVII, one (WIG 143) is made of an altered acid tuff, and one (ABN 142) from quartzite. It was not possible to examine the thin section previously taken from DMF 17, but hand-specimen examination indicates that it is probably a greywacke of Group XXVII type.

Four of the twenty battle-axes (FIF 6, PER 36, PER 39, WIG 146) are of various basic or intermediate igneous rocks. Four battle-axes (AYR 26, CAT 1, FIF 9, STR 7) are metamorphosed basic igneous rocks which do not fit into the epidiorite category discussed above. Another battle-axe (MLT 9), a plag-opx-amph-qz granulite, might also be termed a metabasite (Fig 42f). The typology of this implement indicates that it is an import (Roe 1966,229). Two further battle-axes (FIF 10, ORK 5) are made from quartzites, and three more (ABN 149, PER 34, ROX 2) are made from other, various, metamorphic rocks. Four battle-axes are made from sedimentary rocks other than greywacke, two (ABN 147, MRY 9) of layered mudstone, one (WIG 154) of mudstone, and one (ROS 3) of sandstone. One battle-axe was made from a microgranite (ROX 10) and one from a welded tuff (PBL 12).

Petrology in hand-specimen

In hand-specimen greywackes of Group XXVII type may be distinguished by their granular textures and the fact that they are usually grey to dark-grey when fresh. Fine to medium grained greywackes may be superficially similar to basic igneous rocks such as quartz dolerites, and examination with a hand-lens may be needed to distinguish these.

There are many battle-axes and axe-hammers made of basic and intermediate igneous rocks (< 20% quartz: Hatch *et al* 1972, 270) (Table 35). These may usually be recognized by their interlocking textures of lath-like grains. Thin sections are needed for further identification (eg to Groups XXVIII, XXIX, XXX, olivine basalt, and so on). Like Group XXVII greywackes these rocks are usually grey to dark-grey in colour when fresh, and fine to medium grained. The finer-grained metabasites may be indistinguishable from basic igneous rocks in hand-specimen.

Some of the igneous rocks contain larger, first generation crystals (phenocrysts). If these phenocrysts are large (ie > 2 mm long) and contrast strongly with the ground-mass, they impart a distinctive speckled appearance to a rock. The macroporphyratic basalts described earlier have this appearance, their pale, chunky feldspar

phenocrysts being clearly visible in the darker basic ground-mass.

The other rock types vary widely in colour, texture, etc. Most were fine to medium grained, like the greater number of the rocks described above. All the artefacts examined seemed to be made of tough, non-friable rocks.

Many implements have fresh surfaces, but many have been weathered. Although the weathering rarely extends more than 2 mm below the artefact surface, it can make hand-specimen identification very difficult. A great variety of weathering was encountered. Both greywackes and basic and intermediate igneous rocks had weathered to colours ranging from reddish-brown to pale-grey. Some igneous rocks weathered so badly that none of the original artefact surface remains (eg AYR 28, WIG 104). A few greywacke axe-hammers weathered in such a way that they now seem to be of pale, friable sandstone (eg DMF 34, KRK 27).

In my experience artefacts of Group XXVII greywacke may be identified as such with reasonable confidence in hand-specimen, providing they are not too fine-grained or badly weathered. As for the rest of the rock types encountered, thin-sectioning was usually necessary for any sort of useful identification. Rough hand-specimen identifications may sometimes suffice for very common, distinctive, usually coarse-grained rock types (eg granite, gneiss, quartzite). However if there are other artefacts of identical hand-specimen petrology, then these rock types should be sectioned also. Very occasionally an artefact is of a rock type so unique and distinctive that it and its source may be identified by an expert from hand-specimen examination alone. The axe-hammer of Ailsa Craig microgranite (WIG 106) was the only such specimen encountered in this study. Ironically in such unusual instances one often wishes to section the artefact to clinch the identification.

Summary of petrology

The demands imposed by the manufacturing techniques used to make battle-axes and axe-hammers (Fenton 1983, 70-4) limit the number of rock types that may be used to make these implements. The availability of blanks of suitable rock types (Fenton 1983, 78-89) within the areas of distribution of the two types of implement (Figs 15, 16) further restricts the rock types that may be exploited.

The petrologies of the two artefact-types within these constraints are very diverse. Virtually every major rock type in Scotland suited to the manufacture of these implements is represented in the two artefact assemblages. There are many and varied basic and intermediate igneous rocks from all the major igneous suites in the area. The metabasic rocks, outcrops of which are mostly confined to the Highlands, are less common, but display a similar variety; and an almost continuous spectrum of the types of greywacke known from the huge southern uplands outcrop is present, particularly among the axe-hammers.

A relationship is evident between the geological abundance of the suitable rock types and the number of artefacts made from them. For example there are many intrusions of Group XXVIII quartz dolerite within the general areas of distribution of the artefact types (Fig 19a),

Table 35 Relative proportions of the major rock types from Scotland

Rock-type	Axe-hammers	Battle-axes
Greywacke	127 (66.8%)	10 (12.2%)
Basic and intermediate igneous rocks	43 (22.7%)	50 (61.0%)
Metabasites	1 (0.5%)	11(13.4%)
Other rock types	19 (10.0%)	11 (13.4%)

and ten axe-hammers and eleven battle-axes are made of Group XXVIII quartz dolerite. Intrusions of Group XXIX essexite are fewer and more localized (Fig 20), and only four axe-hammers and three battle-axes are of Group XXIX essexite. Similar instances may be observed throughout the artefact assemblages.

Groups XXVII, XXVIII, XXIX and XXX all consist of suitable rock types which are a) relatively common within the areas of distribution of the artefact types, and b) so similar and distinctive as to lend themselves to adequate petrological definition. Group XXXI, which has but three members, presents some difficulties of interpretation.

The nature of the petrologies of the two artefact types suggests that a rather haphazard exploitation of suitable-looking rock types took place, and implies that there were no major centres of exploitation based at particular outcrops.

Relative proportions of rock types

The rock types used may be most simply, and perhaps most meaningfully, divided into four categories: greywackes, igneous rocks with little (< 20%) or no quartz, their metamorphic equivalents the metabasic rocks, and 'other' rock-types. Over 80% of the battle-axes and axe-hammers sampled are made of rocks of the first three of these categories (Table 35). These are the rock types most suited to the technology of manufacture of these implements (Fenton 1983, 70-4).

There are differences in the proportions of these categories in the two artefact types. These are largely due to the fact that 66% of the axe-hammers, but only 12% of the battle-axes are of greywacke of Group XXVII, or 'near XXVII' type. This is probably because greywacke is less suited to the production of battle-axes than axe-hammers (Fenton 1983, 74). Eleven battle-axes but only one axe-hammer were made of metabasic rocks.

Direct comparison with English and Welsh assemblages is not possible, because only the petrologies of those artefacts made from grouped rocks have been collated from these countries (Roe 1979). However broad comparisons are possible, and these assemblages do display similarities with the Scottish ones. First, the grouped rocks are all igneous rocks with little or no quartz, metabasites, or sub-greywackes and greywackes. Second, proportionally more axe-hammers are of sub-greywacke and greywacke (Groups XV and XIX), and proportionally less axe-hammers are made of metabasites (Groups I, III, XVII).

Distributions and sources

The distributions of the axe-hammers and battle-axes are closely related to their sources, where these can be determined. A high proportion of finished implements of both types were found within their geographical source areas, and a slightly lower proportion within 10 km of a possible geological source (Table 36a). This can also be seen in the distribution maps of the grouped artefacts (Figs 18-22).

This relationship between distributions and sources is partly a function of the widespread and abundant outcrops of many of the suitable rock types in Scotland, and the

Table 36 Distributions of implements from Scotland relative to their geological and geographical sources

Artefact type	Battle-axes	Axe-hammers
<i>a) Finished implements</i>		
No of implements with both sources known	52	165
No found within geographical source area	37(71%)	144(87%)
No found within 10 km of a possible geological source	30(58%)	121 (73%)
<i>b) Unfinished implements</i>		
No of implements with both sources known	6	12
No found within geographical source area	6	12
No found within 10 km of a possible geological source	1	9

even greater extent of their geographical source areas. Over a large part of central Scotland, for example, there are few localities more than 10 km distant from a large, Carboniferous quartz dolerite intrusion (Fig 19a).

Consequently it is difficult to assess the amount of trade that took place. A few artefacts (eg axe-hammers: CLK 1, DMF 49, DMF 57, DMF 62, KRK 25, PER 27, PER 31; battle-axes: ABN 145, DMF 81, PER 35) have undoubtedly been traded some distance, since they were found well outside their possible source areas. Most of the artefacts, however, as far as their petrological evidence goes, could have had their origin very close to their find-location, though the same evidence rarely precludes them from having an origin much further away.

Comparisons between the amount of trade of battle-axes and axe-hammers are confounded by such factors as: 1) the different proportions of rock-types in each artefact-assemblage; 2) their differing distributions, in particular the large concentration of axe-hammers in south-western Scotland; 3) the possibility that the smaller battle-axe blanks might be relatively more common than axe-hammer blanks in deposits of erratics far from their geological source.

It is thus difficult to know which, if either, artefact type was traded the most, although Table 36a seems to indicate that battle-axes were.

The very large concentration of axe-hammers in south-western Scotland is almost entirely accounted for by the great number of greywacke axe-hammers from this region. This may be seen by comparing the distribution of all axe-hammers (Fig 16) with the distribution of greywacke axe-hammers (Fig 18b). The reason for the concentration is not known, but there is no doubt that the concentration corresponds with an area containing an extraordinary abundance of a rock type well suited to axe-hammer manufacture and less suited to battle-axe manufacture (Fenton 1983, 74).

Unfinished artefacts are of particular interest, and so have been dealt with separately. They are more likely than finished artefacts to be found near their source, and therefore give a better indication of their source. Twelve battle-axes (AGS 17, ARG 21, AYR 25, FIF 10, KRK 55, ORK 3, ORK 4, ORK 5, PER 34, PER 38, ROX 15, WIG

150) and thirteen axe-hammers (ABN 141, AYR 15, AYR 16, DMF 45, DMF 46, DMF 64, DNB 9, PER 26, REN 7, WIG 115, WIG 117, WIG 122, WLT 4) were abandoned before they were fully finished. All but four of these (ARG 21, AYR 16, PER 34, WIG 115) are substantially complete but for their shaft-holes. The distributions of these implements are widespread, with apparently only the Orcadians finding manufacture acutely difficult. They are of a wide variety of rock types, similar to those that were used to make the finished artefacts.

Sources of six of the unfinished battle-axes, and twelve of the unfinished axe-hammers are known. All these were found within their geographical sources (Table 36). Only one battle-axe and nine axe-hammers were found within 10 km of a possible geological source.

It is interesting that most of the finished and all of the unfinished battle-axes and axe-hammers were found within their geographical source areas, but the aforementioned abundance of geological sources means that this reveals little about the nature of the sources exploited, whether scree/outcrop or cobble-deposit. Ideally to make this distinction one needs a large, glaciated area with restricted geological sources, so that the geographical source areas are more limited than in Scotland. Such conditions prevail over much of England.

Roe (1979, figs 3, 6) has compiled distribution maps of petrologically grouped implements from southern Britain. The distributions of Group XVIII battle-axes and axe-hammers are concentrated in the easternmost counties as far south as Norfolk. These correspond closely with the major geographical source for such rocks in southern Britain, the easterly spread of the North Sea Drift (Harmer 1928). A similar correspondence may be observed between the distribution of Group XV axe-hammers, and their principal geological source in southern Britain, the Lake District Drift of Lancashire and the West Midlands.

In England, therefore, the distributions of a significant number of axe-hammers and battle-axes are closely related to their geographical rather than their geological sources. This strongly suggests that the artefact blanks were derived from cobble deposits containing glacial erratics.

Typology

The typological classification of battle-axes and axe-hammers formulated by Roe (1966; 1979) was based on examination and measurement of most of the accessible British specimens. The minor modifications to this classification which are described below were made solely as a result of study of the artefacts described in this work. It is not necessarily expected that the modified scheme will be useful outside Scotland.

The changes and additions to Roe's scheme were made largely on the principle that typological groups should be defined without ambiguity and as precisely as possible. Metrical criteria are therefore used for defining groups or, where these would be inappropriate or misleading, highly distinctive visual criteria. However manufacturing experiments and the discovery that most battle-axes and axe-hammers were made from cobbles (Fenton 1983) have also made some changes and additions to Roe's classification desirable.

Simplified versions of Roe's (1966,201) definitions of these implements, found to be adequate during this study, follow. Battle-axes and axe-hammers are stone implements with shaft-holes. They have a hammer-face at one end and a blade, or a suggestion of a blade, at the other. The axis of the shaft-hole lies in the plane of the blade. Implements less than 190 mm long and 80 mm broad are classified as battle-axes, and all those greater in either dimension as axe-hammers (Fig 23).

Battle-axes

Roe (1966) has produced a comprehensive, but complex classification of battle-axe forms. This was based on: 1) the ratio of blade- to shaft-hole-depth; 2) the ratio of the distance between hammer-end and blade expansions (if present) to overall implement-length; 3) the form of the hammer-end, or butt. The two ratios were plotted against each other (Roe 1966, figs 5, 6, 7) to provide a metrical analysis of the shape of battle-axes viewed in profile.

Roe then divided the battle-axes in three separate ways: first, metrically, into Stages I-V, on the basis of the ratio of blade to shaft-hole depth; second, largely subjectively, into Early, Intermediate and Developed (Northern and Southern Variant) battle-axes; and third, subjectively, into groups based on butt-form. The groupings that seem best visually (Roe 1966, figs 5, 6, 7) and which best express the shapes of the artefacts in profile - namely the Early, Intermediate and Developed groups - are only loosely defined (Roe 1966, 203-4).

Manufacturing experiments (Fenton 1983, fig 4.4) showed that the shape in profile of battle-axes, especially any expansion between hammer-end and blade, must be produced. Shape in profile is therefore typologically important. In contrast shape in plan view is largely determined by the form of the cobble-blank. Experiments also indicated that butt-form may also be determined by nuances of the shape of the cobble-blank. These last two features, therefore, are of lesser importance.

Roe's (1966, figs 5, 6, 7) method of metrical analysis of shape in profile view consequently appears the best basis for classifying battle-axes, and was used here (Fig 24). Butt-form was not used.

The sets of battle-axes that could be separated out visually and divided off metrically were placed in different typological groups. These divisions are shown in Fig 24. Roe's terminology (Northern Variant, Early) is retained where her identifications (Roe 1966; 1967) are substantially the same as those made here. The battle-axes with non-expanded profiles were termed Early; those with expanded profiles, with the expansions relatively close together, Northern Variants; other expanded varieties, Intermediate-Developed. Northern Variants were further divided into those with and those without extreme expansion of the blade.

Attempts at further subdivision of the battle-axes were unsuccessful. The other, smaller groupings that could be made on visual inspection could not be substantiated metrically. Atypical battle-axes, including those expanded at one end only, were placed in an Unclassified category. One battle-axe (MLT 9) compares most closely with Continental types (Roe 1966,229) and is regarded as a foreign import.

Twenty-three battle-axes were identified as Early, and three possibly so; thirteen were identified as Northern

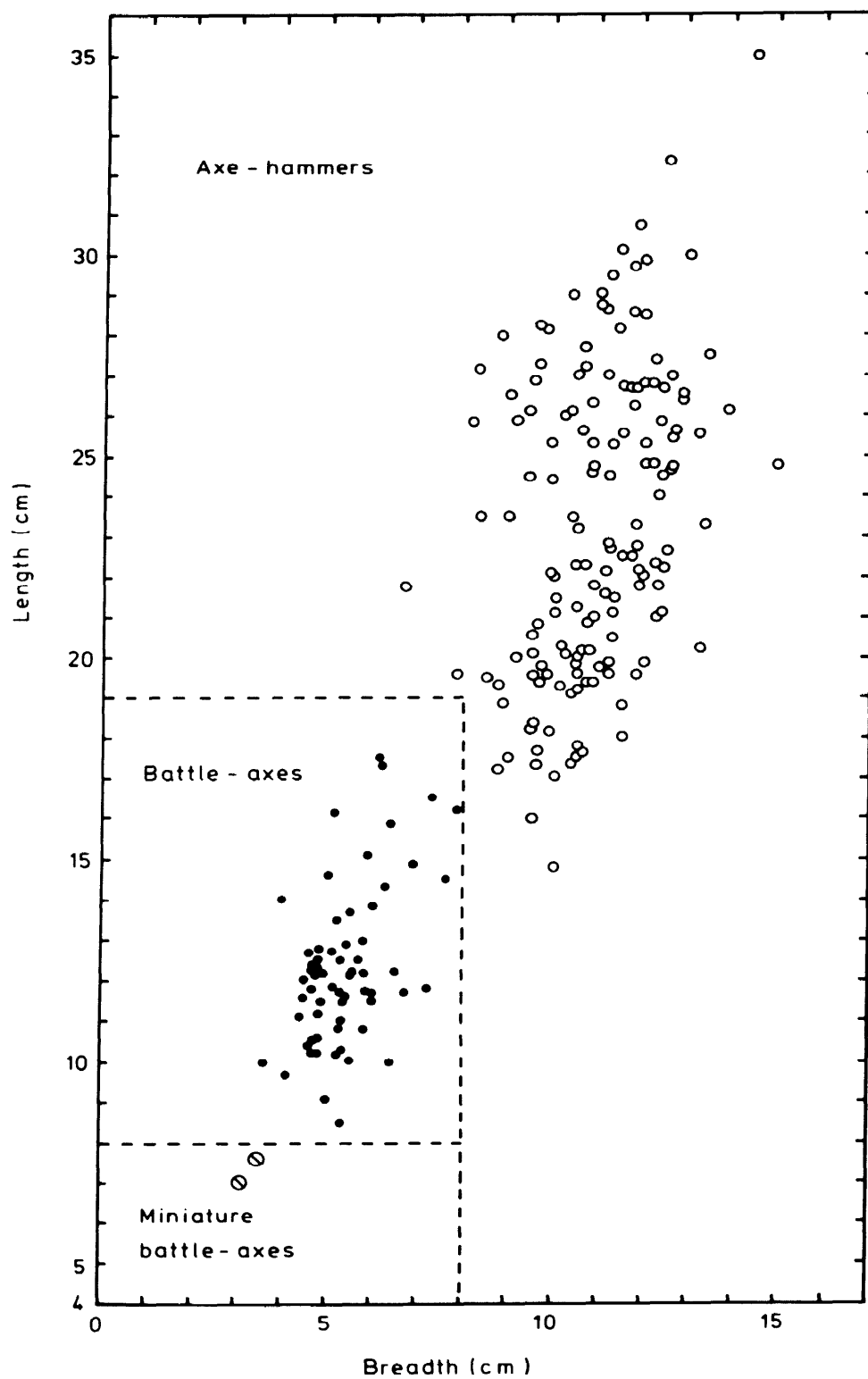


Fig 23 Length-breadth plot of all unbroken, finished implements

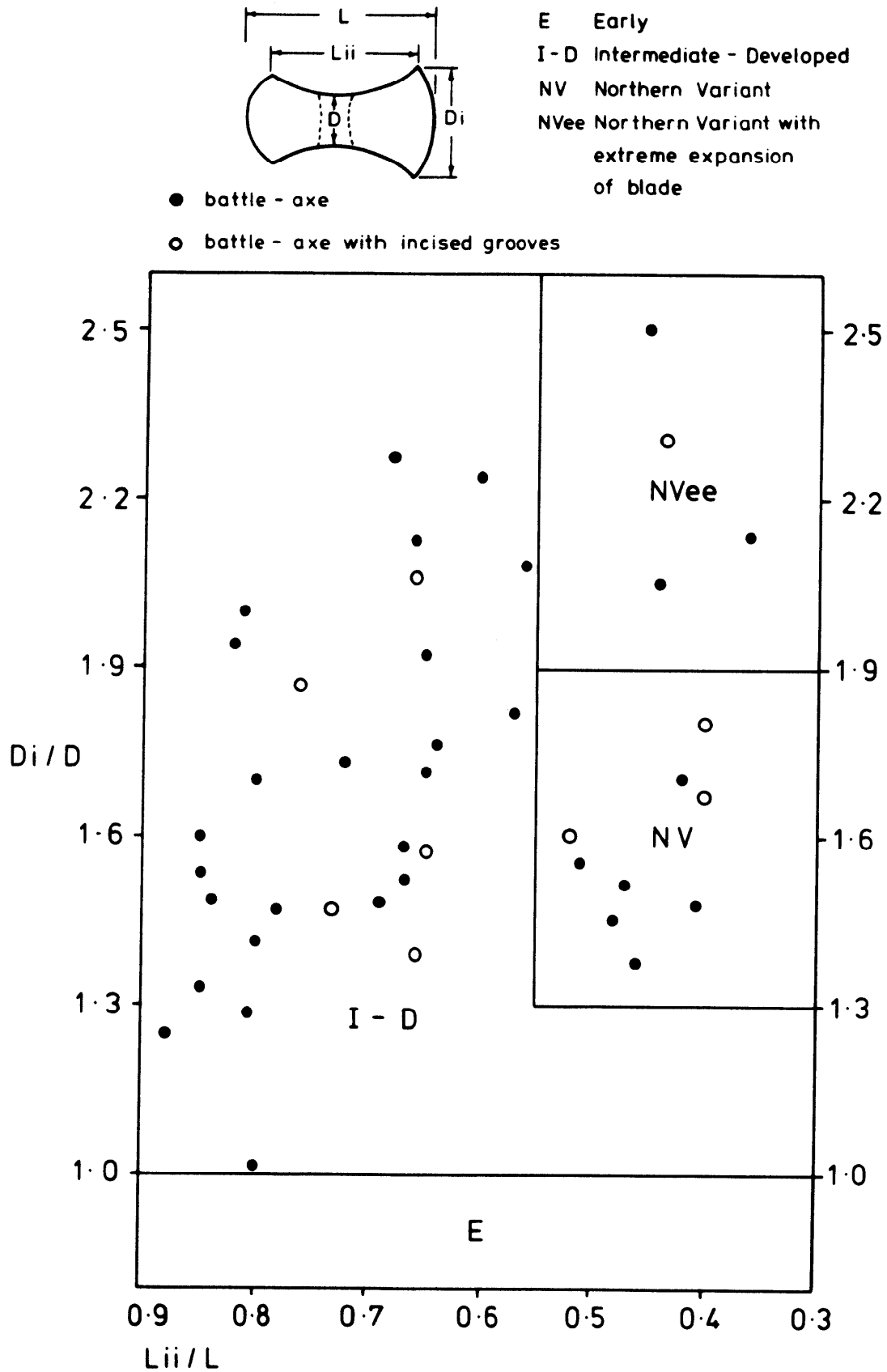


Fig 24 Metrical analysis of the shape in profile of battle-axes expanded at both ends (method from Roe 1966)

Variants, with one possible; 29 battle-axes were definitely, and two tentatively identified as Intermediate-Developed; five were placed in the Unclassified category; and not even tentative identifications could be advanced for five implements.

Six artefacts (see list and Fig 37) similar in form to battle-axes, but so small as to have the appearance of toys or tokens, were encountered. Chiefly because of their toy-like nature, they are here regarded as lying outside the battle-axe series, and are not considered further. The next-shortest battle-axe (ILY 3) looks much more robust. These six artefacts are all as easily separated metrically as visually, so all battle-axes less than 80 mm long are termed Miniature battle-axes (Fig 23). This metrical division, like those within the battle-axe series, is arbitrary - there is no 'natural break' in battle-axe lengths at this point. Miniature battle-axes are often made of rather unsuitable, but visually striking rock types. No less than four of the six seen were found on Orkney or Shetland.

Two implements from Shetland (SHE 8, SHE 9), classified as battle-axes by Roe (1966, 243), resemble shaft-hole adzes or large, cushion maceheads as much as battle-axes (see list and Fig 38). They are here considered to lie outside the battle-axe series, and therefore outside the scope of this study.

Axe-hammers

Axe-hammers are less variable in shape in profile view than battle-axes. Roe (1979, 29) divides axe-hammers into those that are convex in profile or with parallel upper and lower surfaces (Class I axe-hammers), and those that are concave in profile (Class II). Concavity of profile, in axe-hammers as in battle-axes, is significant because it must be produced during manufacture. Convex and, to a lesser extent, parallel axe-hammer profiles are more likely to be original features of the blanks (Fenton 1983, figs 4.2, 4.3).

Roe's classification is followed here. Class II axe-hammers are defined as those deeper at both blade and hammer-ends than in the region of the shaft-hole. However local thinning of the profile resulting solely from production of the shaft-hole is not sufficient grounds for placing an axe-hammer in Class II. Axe-hammers that are unusual in having an oddly formed hammer-end (PER 29, WIG 125) or some such feature are placed in an Unclassified category.

The axe-hammers show considerable and continuous variations in size, and in shape in plan view (Fig 35). Manufacturing experiments and the morphology of the axe-hammers themselves suggest that initial blank shape has a major influence on the eventual axe-hammer form, far more so than in the smaller battle-axes (Fenton 1983, 60-2). Because of this, no further typological subdivisions based on morphology or size were made.

The great majority of Scottish axe-hammers - 178 (including eleven tentative identifications) - belong to Class I; only four (DMF 62, DMF 67, LNK 28, PER 21) belong to Class II; three were placed in the Unclassified category; five axe-hammers were so badly damaged as to preclude even tentative identification.

Decoration

Thirty of the battle-axes and twenty-four of the axe-hammers examined bear decoration of some descrip-

tion. The significance of a type of decoration was assessed by a) the method of its production, and b) the consistency of its pattern and position, and the variety of artefact types on which it was found.

The forms of decoration encountered were divided into two sets on the basis of the method of production used.

Incised grooves, that is grooves about 1 mm wide and deep with sharply defined edges, are made by cutting the artefact surface repeatedly with sharp flakes of a hard material such as quartzite (Fenton 1983, 68). This technique is quite different from those employed to shape and finish battle-axes and axe-hammers, namely pecking and grinding.

Shallow, moulded grooves, ridges and knobs, and 'dished' surfaces, which comprise the other forms of decoration observed on the implements, may be produced by minor refinements of the techniques of pecking and grinding (Fenton 1983, 60-1).

This distinction is important, for if a technique different from those used in general implement-manufacture is required to produce a form of decoration, the practice is more likely to have originated in one area, and to be of some significance. But if a form of decoration may simply be produced by minor refinements of the basic techniques of manufacture, then it is quite possible that it was produced independently, at different times and in different places.

This is not the only reason to suggest that incised grooves are different from and more significant than the other forms of decoration. Incised grooves, with one exception (STR 7), are found only on expanded battle-axes, and always in the same arrangement - emphasizing the curvature of the expansions (Figs 27-33). Shallow grooves and ridges are present in various arrangements on a wide range of battle-axes and axe-hammers, and 'dished' upper and lower surfaces are found on both types of implement. Knobs are somewhat rare, present on only two, morphologically varied battle-axes.

Implements bearing incised grooves are therefore placed in a separate decorative, typological group. The other forms of decoration, because of their variable nature and the fact that they may be produced by pecking and grinding, are not considered significant enough to merit their own groups.

Eleven battle-axes bear incised grooves (list a), four being Northern Variants, five Intermediate-Developed, one in the Unclassified category and one unidentified.

Implements bearing other forms of decoration are as follows. Twelve battle-axes (ABN 144, ABN 148, AYR 26, BRW 12, ELT 9, FIF 6, LNK 29, LNK 32, PER 35, REN 11, ROX 13, WIG 147) and nine axe-hammers (DMF 34, DMF 69, DMF 72, DMF 77, KRK 27, KRK 31, KRK 43, PER 21, WIG 119) bear wide, shallow grooves. Three battle-axes (ABN 147, REN 9, REN 10) and six axe-hammers (AYR 19, DMF 71, DNB 9, KRK 29, REN 7, WIG 120) have ridges. Two battle-axes (AYR 25, FIF 10) and nine axe-hammers (DMF 54, DMF 55, DMF 67, ELT 8, KNC 4, KRK 33, LNK 33, WIG 108, WLT 4) have 'dished' surfaces. Two battle-axes (ARG 22, AYR 27) bear knobs.

Shaft-holes

Most of the battle-axes and all the axe-hammers have hourglass shaft-holes. The quality of these varies,

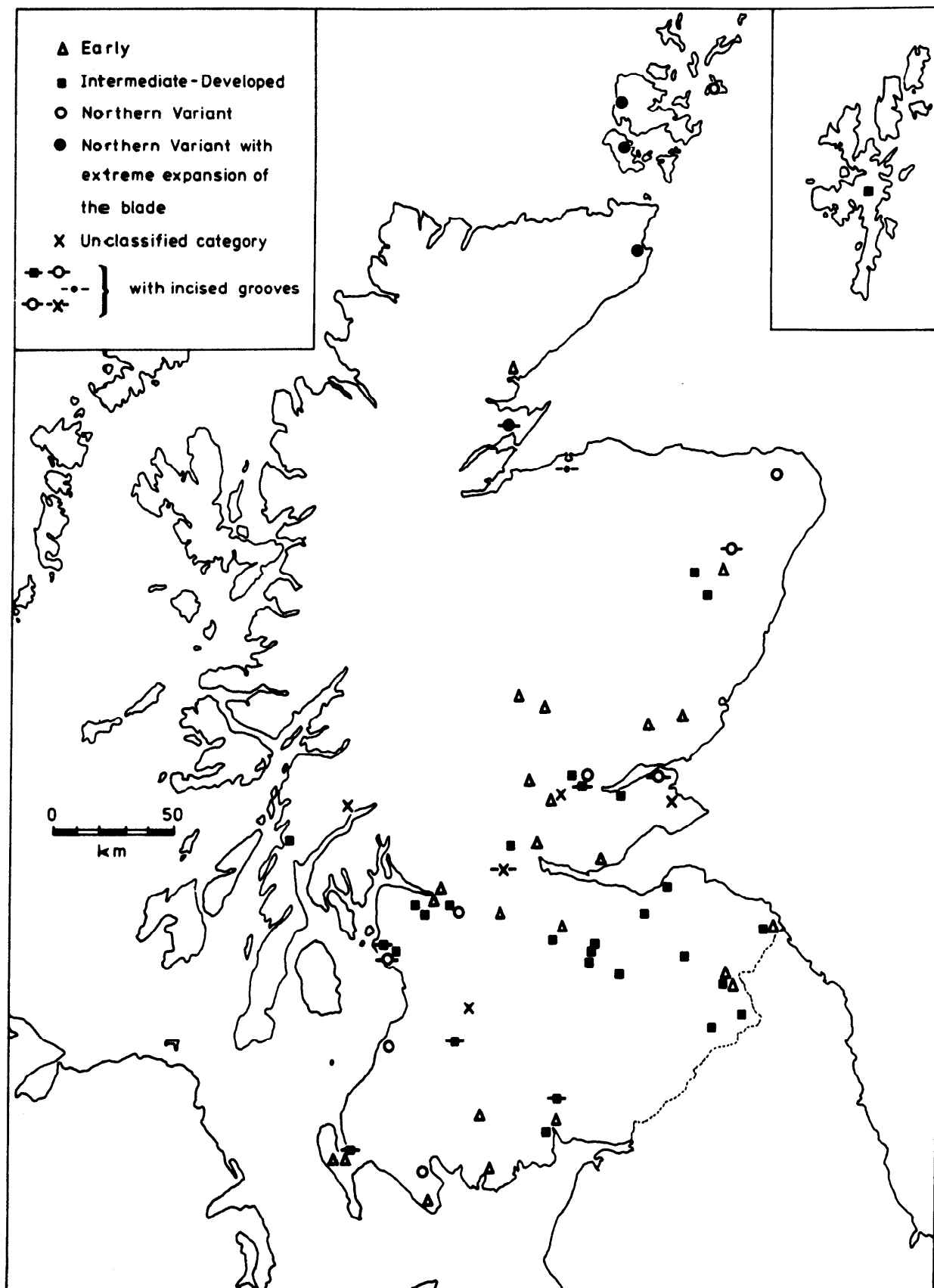


Fig 25 Distributions of typologically grouped battle-axes

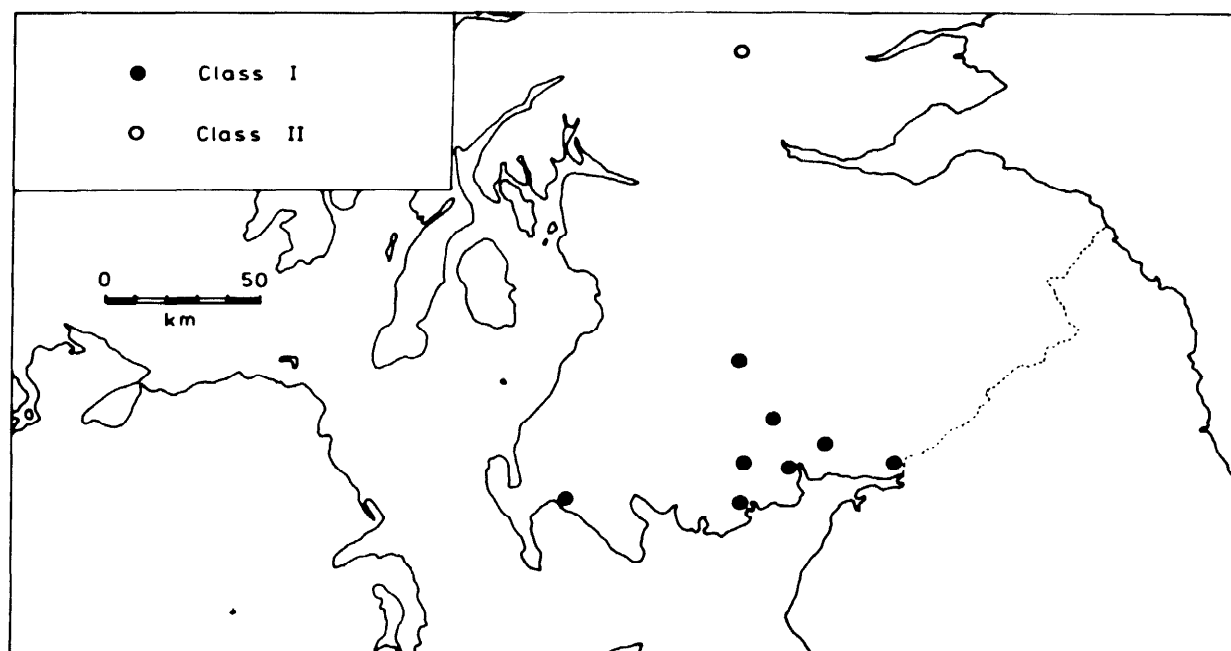


Fig 26 Distribution of axe-hammers with wide, shallow grooves

particularly among the axe-hammers, whose shaft-holes may be very hourglass. Three battle-axes (DMF 83, REN 9, STR 7) have tapering shaft-holes, which indicate these implements were drilled from one side only. A number of other battle-axe shaft-holes are so straight and well made that it is not possible to say whether they were drilled from one side, or both. Four battle-axes (BRW 10, DMF 82, REN 10, ROX 2) possess notably ovoid shaft-holes, and another battle-axe (WIG 150) has an unfinished ovoid shaft-hole. Ovoid shaft-holes such as these are deliberately produced. A number of axe-hammer shaft-holes are ovoid at their narrowest section, but these were the consequences of cusps being sunk slightly off-centre from one another. Two battle-axes (LNK 31, REN 11) have cusps that widen suddenly, in a distinct step, close to one end (Figs 30, 32). It is difficult to evaluate the significance of tapering, ovoid and 'stepped' shaft-holes, partly because there are so few examples of each type, and partly because they are found on a variety of battle-axe forms. No typological groupings were considered desirable.

'Look-alikes'

Among the implements examined there were occasionally two which, while similar to many others, bore a particularly strong resemblance to one another in terms of morphology and, sometimes, decoration. It is difficult, because of the small sample sizes of the battle-axes and axe-hammers, to interpret the significance of groups of two or three artefacts. Moreover it is rarely possible to define such groups so as to exclude similar artefacts. These pairs of implements have therefore not been given typological group status, and are instead described here as 'look-alikes'.

The most striking 'look-alikes' among the artefacts examined are two unusually large Northern Variant

battle-axes (ORK 3, ORK 4), closely similar morphologically, with incomplete shaft-holes. Two smaller Northern Variant battle-axes (AYR 26, LNK 32), with rounded hammer-ends and moulded grooves that produce a raised collar between the expansions, are a less striking pair of 'look-alikes'. Of the axe-hammers, two (KRR 29, DMF 71) with a raised ridge from shaft-hole to blade look particularly similar, as do two small, squat Class II axe-hammers (DMF 62, PER 21), only one of which bears moulded grooves (PER 21).

Typology and distributions

Typological division of the 82 battle-axes examined has resulted in small groups, whose distributions may only be interpreted in the broadest terms. Nonetheless some interesting features have emerged.

Early battle-axes (Fig 25) are widely, if somewhat unevenly distributed in Scotland. Intermediate-Developed battle-axes (Fig 25) are common in southern Scotland, but comparatively rare north of the Tay estuary. This contrasts strongly with the distribution of Northern Variant battle-axes (Fig 25) which are concentrated on the west coast of the Firth of Clyde, and in low-lying regions north of the Tay estuary. Northern Variants with extreme expansion of the blade have only been found north of the Moray Firth, where few other battle-axes are recorded. The term 'Northern Variant' was coined by Roe (1966, 204) to emphasize that such implements are largely confined to northern Britain. The distribution of battle-axes with incised grooves (Fig 25) is very similar to that of the Northern Variants sampled here.

Nearly all the axe-hammers are of Class I type, so the distribution of Class I axe-hammers is virtually that of the

total assemblage (Fig 16). There are only four Class II axe-hammers, which are widely dispersed.

Only one set of axe-hammers or battle-axes with common typological features other than those used for typological grouping displayed an appreciable regional concentration. These, the Class I axe-hammers with moulded grooves, appear strongly concentrated in Dumfriesshire and Kirkcudbrightshire (Fig 26). Only one such grooved axe-hammer is known from Wigtonshire, although a comparably large number of axe-hammers have been found here (Fig 16). This suggests the concentration of Class I axe-hammers with moulded grooves is not due to the fact that there is a great concentration of axe-hammers in south-west Scotland. Instead it may be that this is a regionally restricted form of axe-hammer decoration. However an axe-hammer with moulded grooves of Class II type (PER 21) was found in Perthshire (Tayside).

Typology and petrology

None of the typological groups defined above displays an important correlation with any particular rock type. Instead the members of each typological group are made of widely varying rock types (see list).

There are, however, some general differences in petrology between the battle-axe typological groups that have relatively confined distributions. For example, ten of the 31 Intermediate-Developed battle-axes were made of Group XXVIII quartz dolerite, whereas none of the thirteen Northern Variants are made of this rock. The distribution of Northern Variants, unlike that of Intermediate-Developed battle-axes, lies largely outside the geographical source area for Group XXVIII (Fig 19a). This implies that these implements were made mainly from suitable rock types locally available, and were not extensively traded. Battle-axe typological groups that have more similar distributions (eg Early, Intermediate-Developed) have fewer differences in petrology. No such comparisons are possible among the axe-hammers, because Class I contains so many members and Class II so few.

On a smaller scale implements sharing some morphological and/or decorative feature do sometimes show a pronounced correlation with a particular rock type. The eight Class I axe-hammers with moulded grooves are all of varieties of Group XXVII greywacke. However these implements are all from Dumfriesshire, Kirkcudbrightshire or Wigtonshire, and 74% of the axe-hammers from these three counties are of Group XXVII greywacke. Therefore it may be no more than coincidence that all are of Group XXVII rock, particularly when one considers that the Class II axe-hammer with moulded grooves (PER 21) is of Group XXVIII quartz dolerite.

Two pairs of 'look-alikes' show a notable petrological correlation. The first pair - the two large Northern Variants from Orkney (ORK 3, ORK 4, Fig 30) - is of Group XXXI basic andesite. Only one other implement (ABN 148, Fig 27) is known to be of this rock type. This strongly suggests the 'look-alikes', which are both unfinished, were made at the same centre of production. Two small Class II axe-hammer 'look-alikes' (DMF 62, PER 21, Fig 36) are of a similar, but not uncommon variety of Group XXVIII quartz dolerite. Again the

similarities of morphology and petrology imply a common centre of production. Neither of these correlations need mean that scree/outcrop sites were exploited for the blanks - it is just as likely that the two rock types were particularly common as cobbles in their respective areas of manufacture. Indeed the rounded forms of these four implements (Figs 30, 36) suggest that they were made from cobbles.

No other groupings made of the implements examined, either on the basis of shape, decoration, shaft-hole type or, for Class I axe-hammers, length or shape in plan view, showed any marked correlation with particular rock types.

The general absence of correlation between implement petrology and typology reinforces the evidence of the petrology of the implements alone, ie that there was a quite haphazard exploitation of the suitable rock types available within the areas of distribution of the artefact types. The general petrological differences between the Northern Variant and Intermediate-Developed battle-axes, which have different distributions, also reinforce an impression gained from the petrological distributions - that locally available rock types were used to make the implements, and that trade was not very extensive. The marked petrological and typological similarities of the two pairs of 'look-alikes' discussed above suggest that there were at least some small centres of manufacture. There is no suggestion, however, of there having been any large centres of manufacture.

It seems likely that the trade of axe-hammers and battle-axes was less extensive than the trade in the flaked stone axes that were made at axe-factories. Comparison is difficult, largely because of the differences in the nature and extent of the sources involved (Fenton 1983, 80-1) - especially in Scotland, where rock types suited to battle-axe and axe-hammer manufacture are so widespread. In southern Britain, however, the geological and geographical sources of these rock types are often more confined. Here it can be seen that products of the Group VI axe-factory in the Lake District, and the Group VII axe-factory in North Wales (Cummins 1979, figs 3, 6, 8), for example, were traded extensively, but that battle-axes and axe-hammers of Group XV and Group XVIII rock have distributions closely related to their respective geographical source areas (Roe 1979, figs 3, 6; Harmer 1928). Rocks suited to pecking are more abundant and widespread than rocks suited to flaking, and so the trade of flaked implements was probably necessarily the most extensive.

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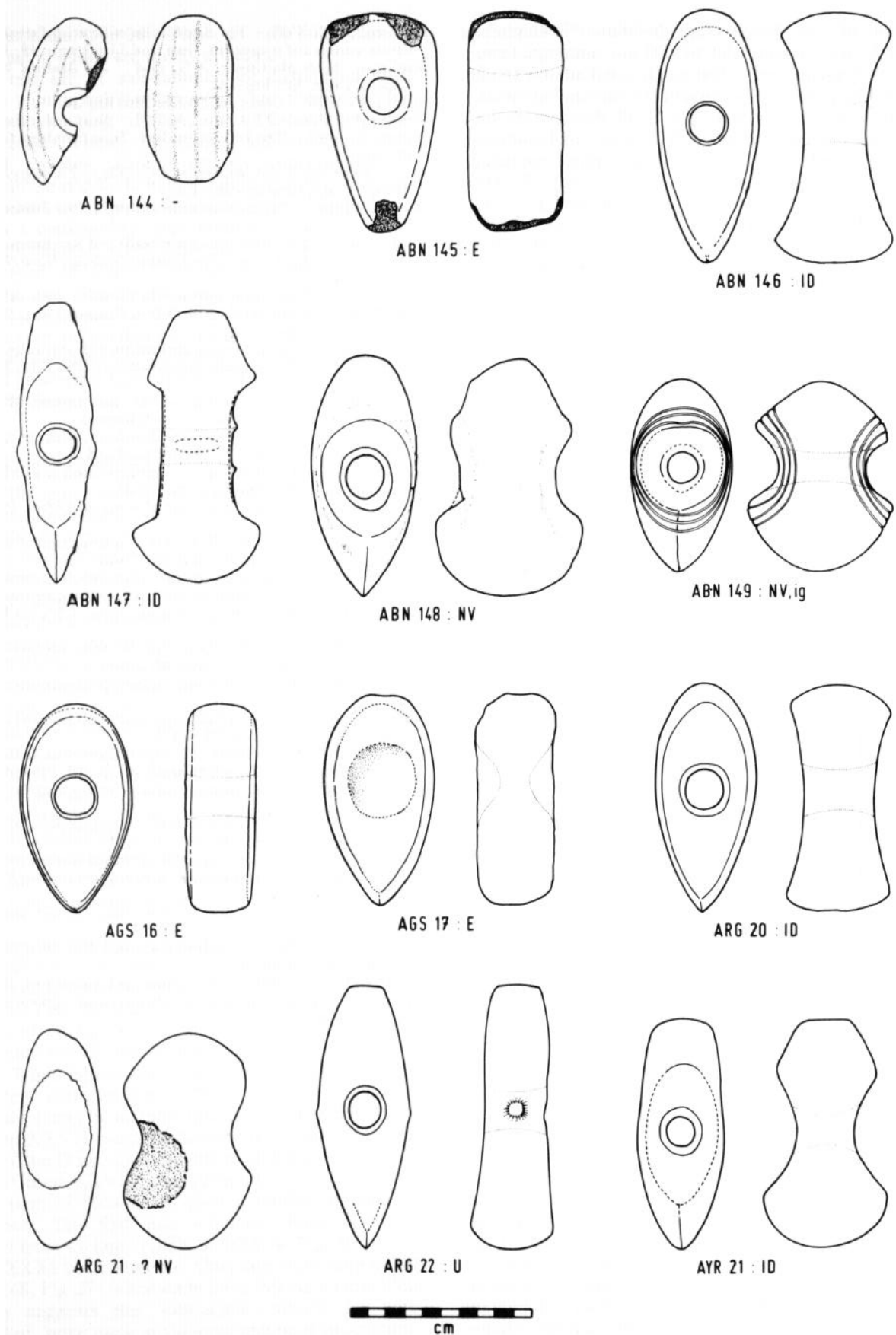


Fig 27 The sampled battle-axes: E, Early; ID, Intermediate-Developed; NV, Northern Variant; NVee, Northern Variant with extreme expansion of the blade; ig, with incised grooves; U, unclassified (scale 1:3)

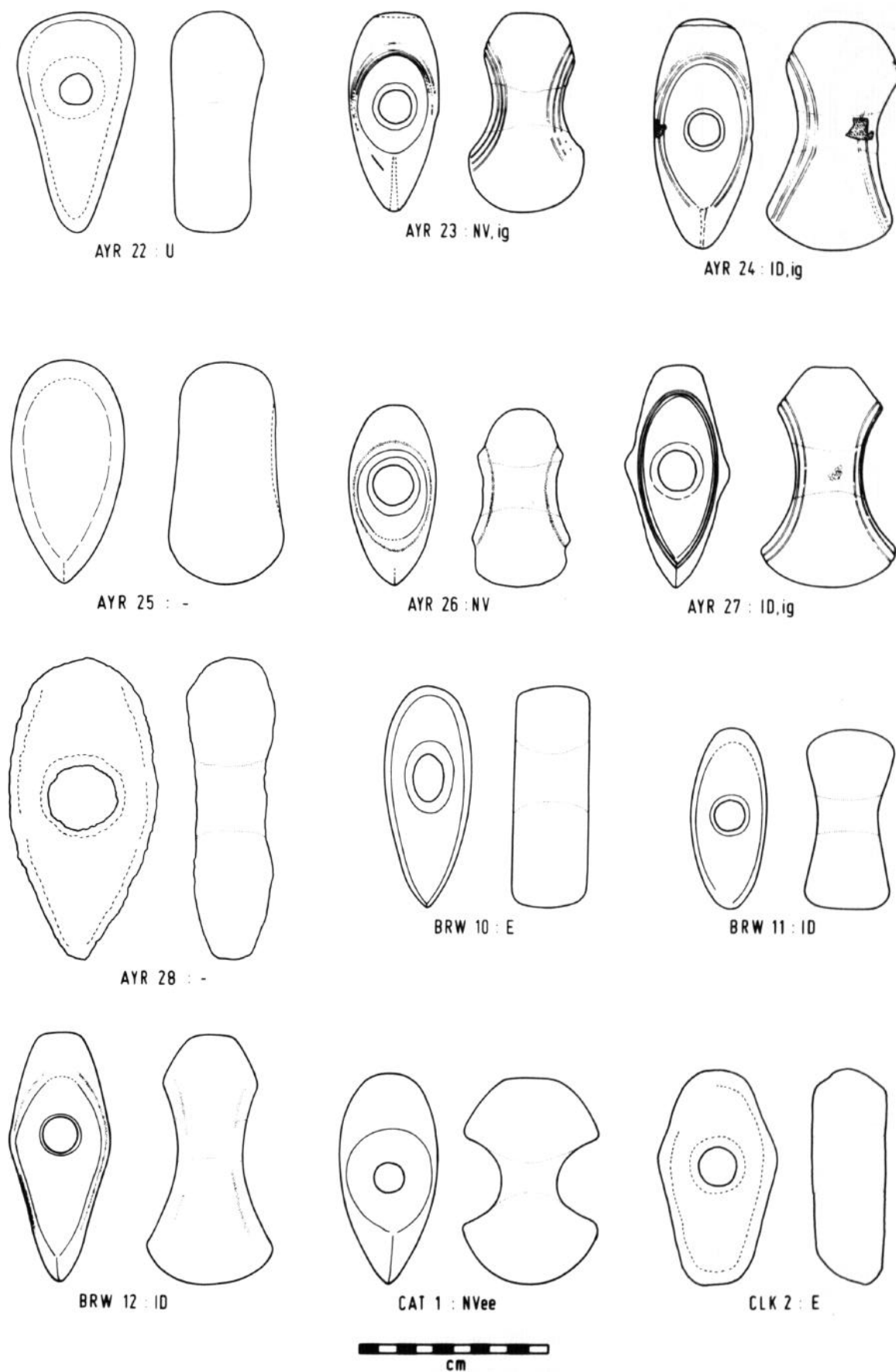


Fig 28 The sampled battle-axes: E, Early; ID, Intermediate-D NV, Northern Variant; N Vee Northern Variant with extreme expansion of the blade; ig, with incised grooves; U, unclassified (scale 1:3)

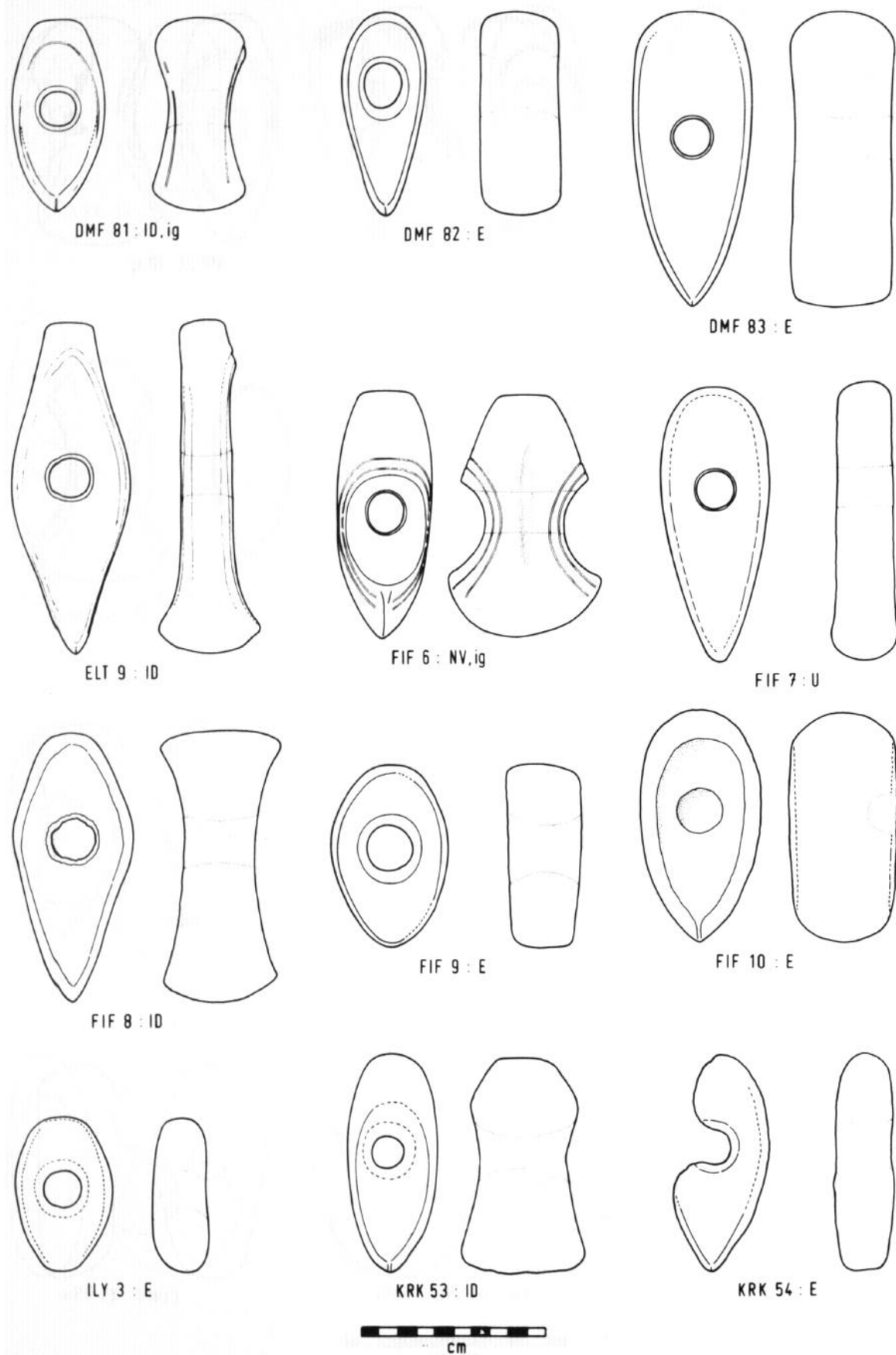


Fig 29 The sampled battle-axes: E, Early; ID, Intermediate-Developed; NV, Northern Variant; NVee, Northern Variant with extreme expansion of the blade; ig, with incised grooves; U, unclassified (scale 1:3)

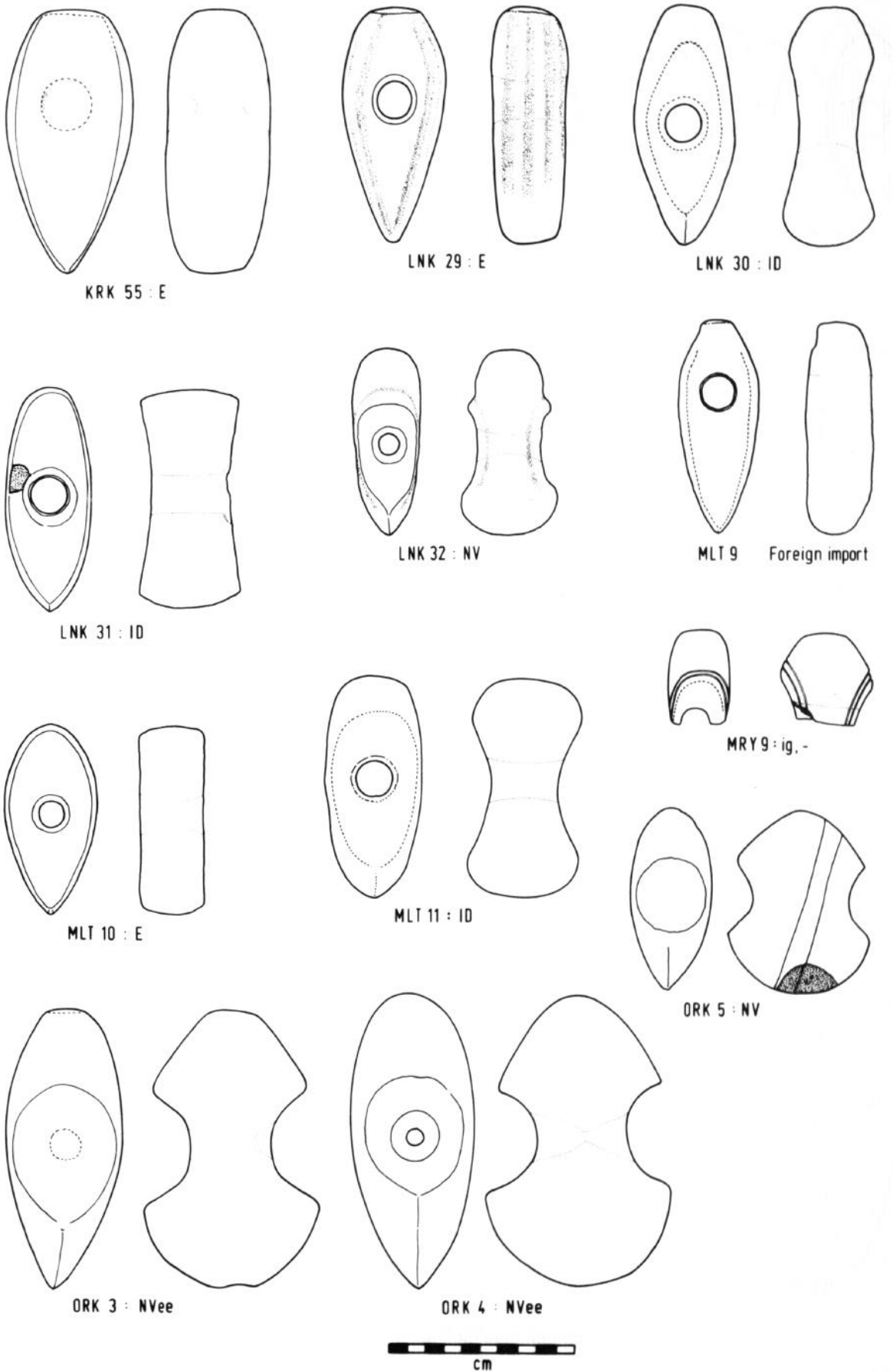


Fig 30 The sampled battle-axes: E, Early; ID, Intermediate-Developed; NV, Northern Variant; NVee, Northern Variant with extreme expansion of the blade; ig, with incised grooves; U, unclassified (scale 1:3)

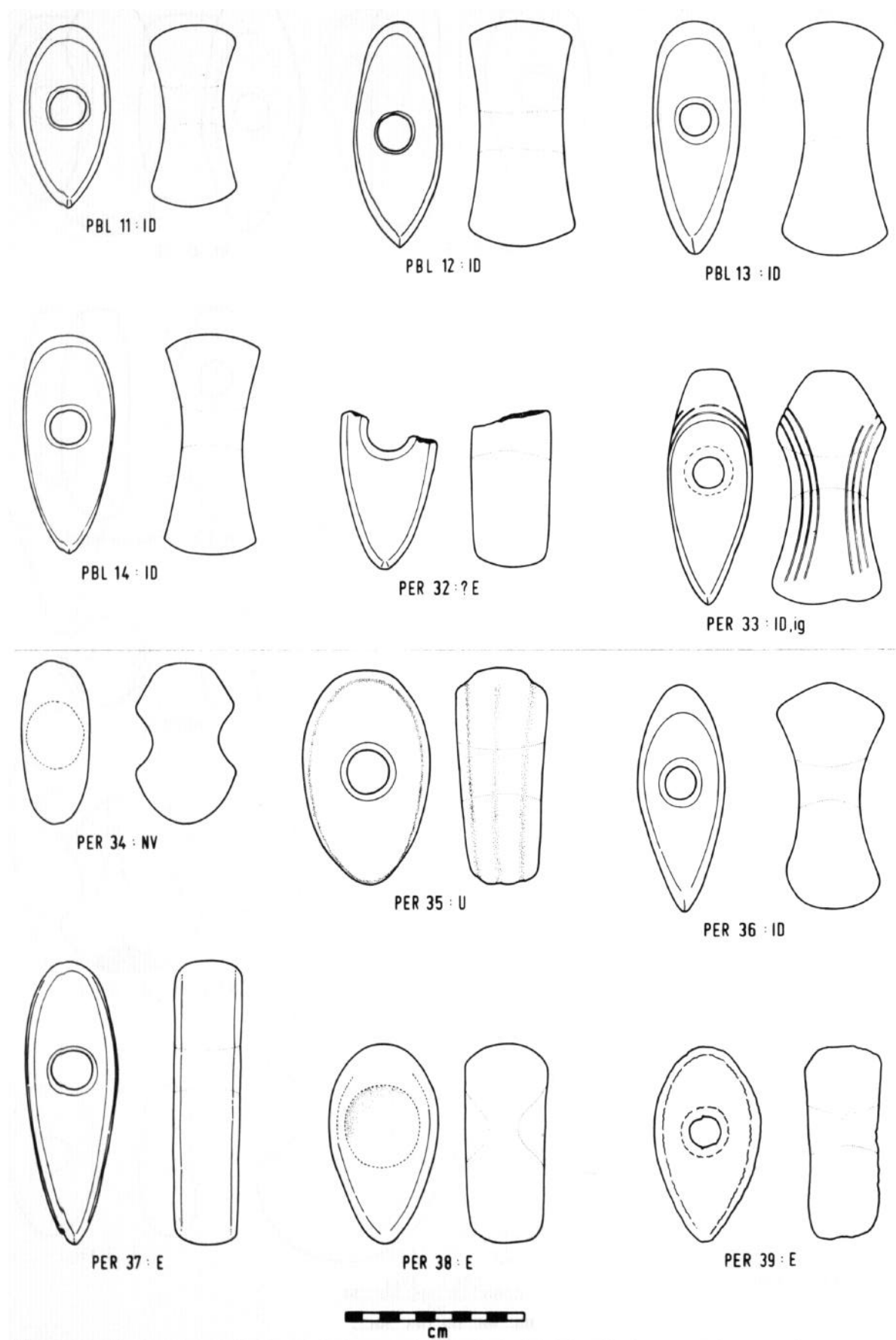


Fig 31 The sampled battle-axes: E, Early; ID, Intermediate-Developed; NV, Northern Variant; NVee, Northern Variant with extreme expansion of the blade; ig, with incised grooves; U, unclassified (scale 1:3)

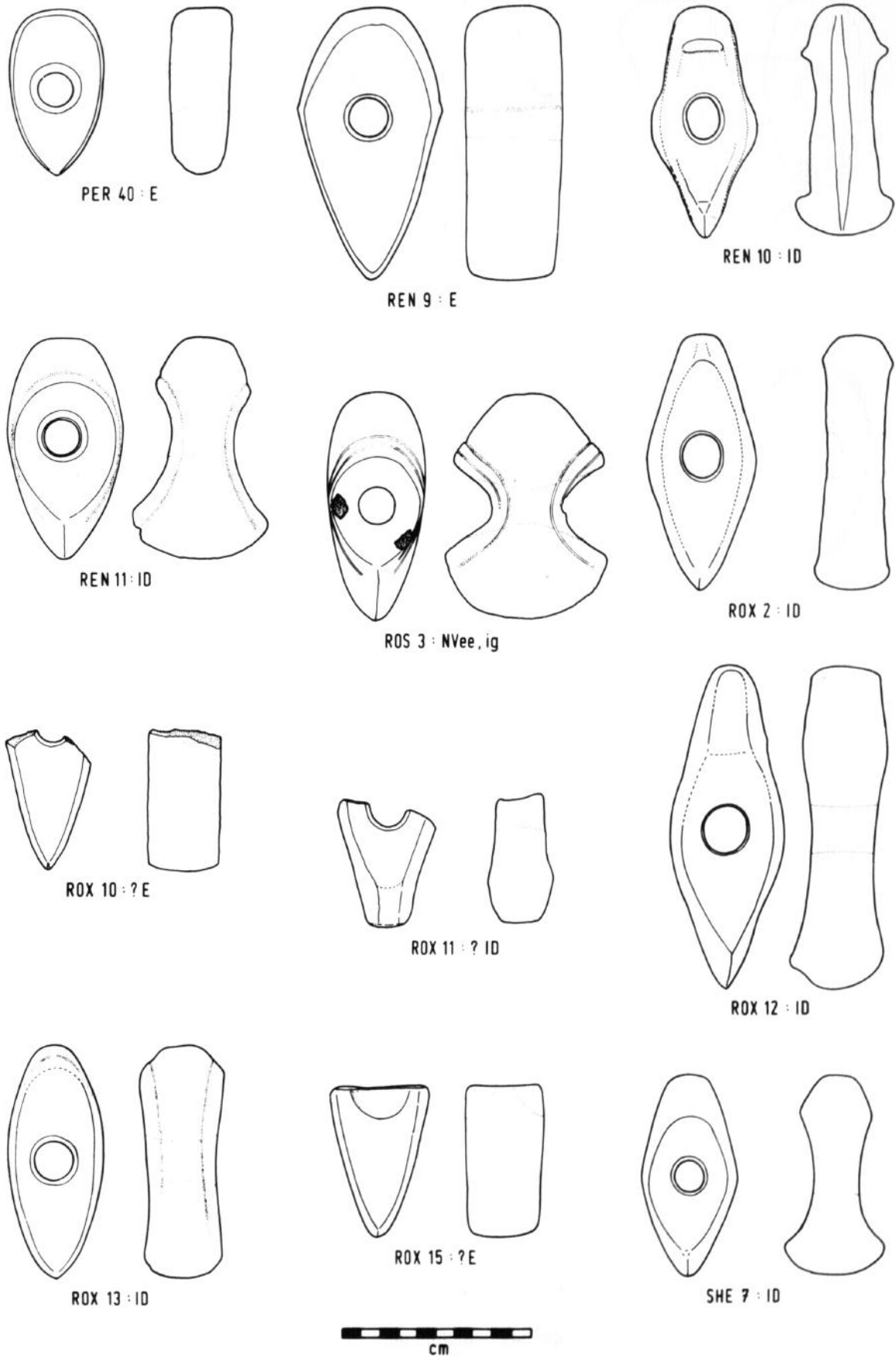


Fig 32 The sampled battle-axes: E, Early; ID, Intermediate-Developed; NV, Northern Variant; NVee, Northern Variant with extreme expansion of the blade; ig, with incised grooves; U, unclassified (scale 1:3)

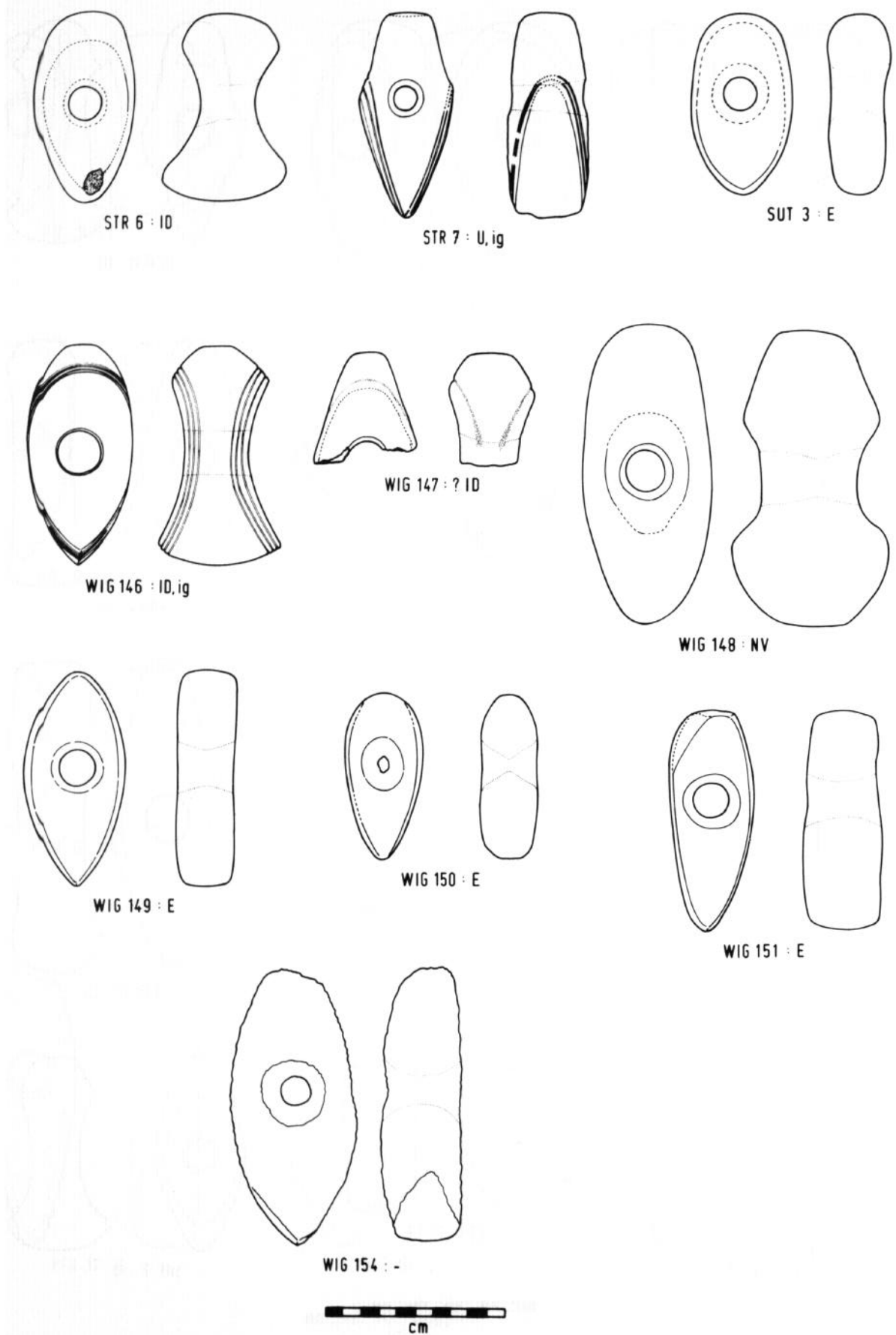


Fig 33 The sampled battle-axes: E, Early; ID, Intermediate-Developed; NV, North Variant; NVee, Northern Variant with extreme expansion of the blade; ig, with incised grooves; U, unclassified (scale 1:3)

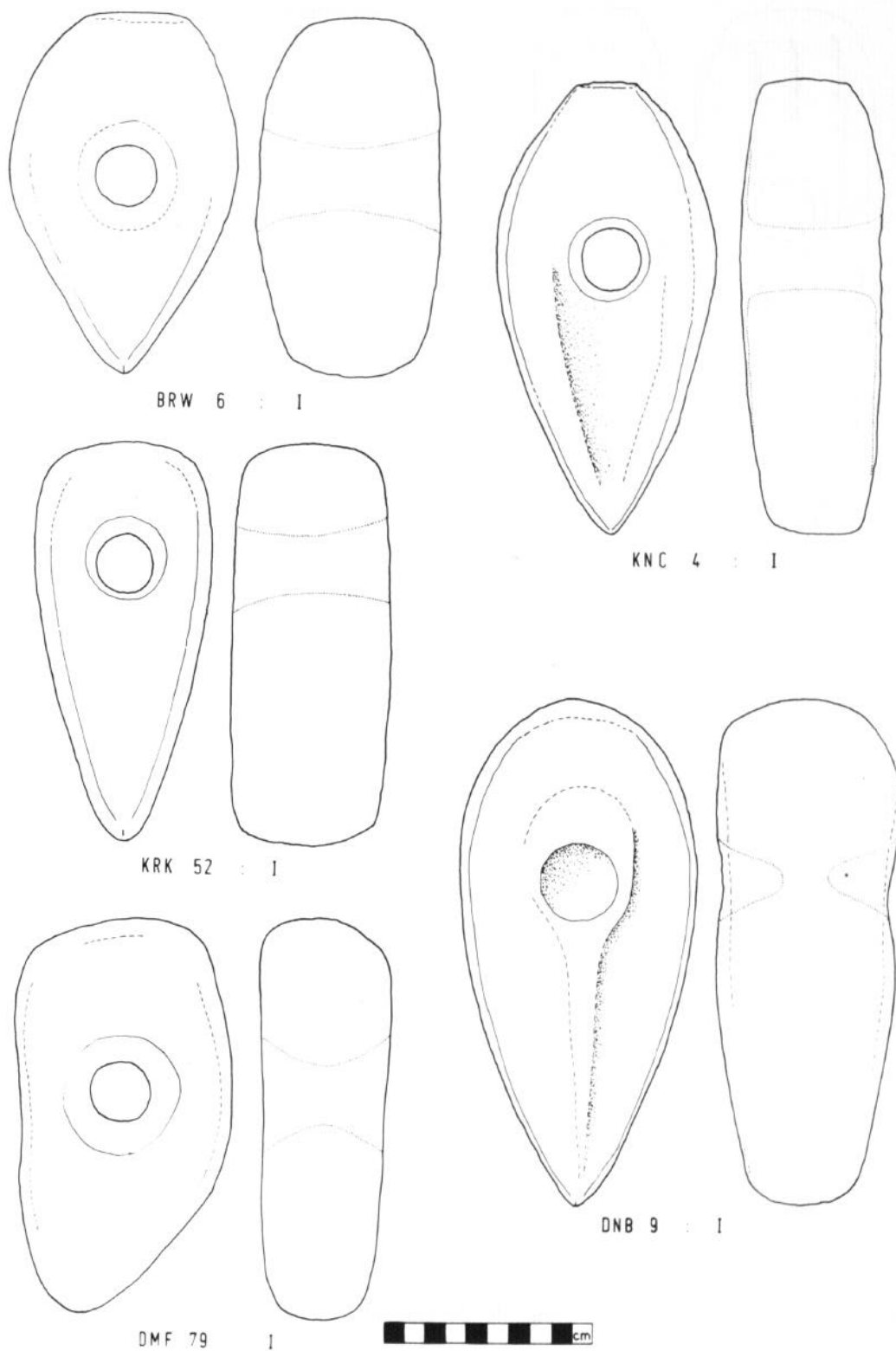


Fig 34 Some of the sampled axe-hammers: I, Class I (scale 1:3)

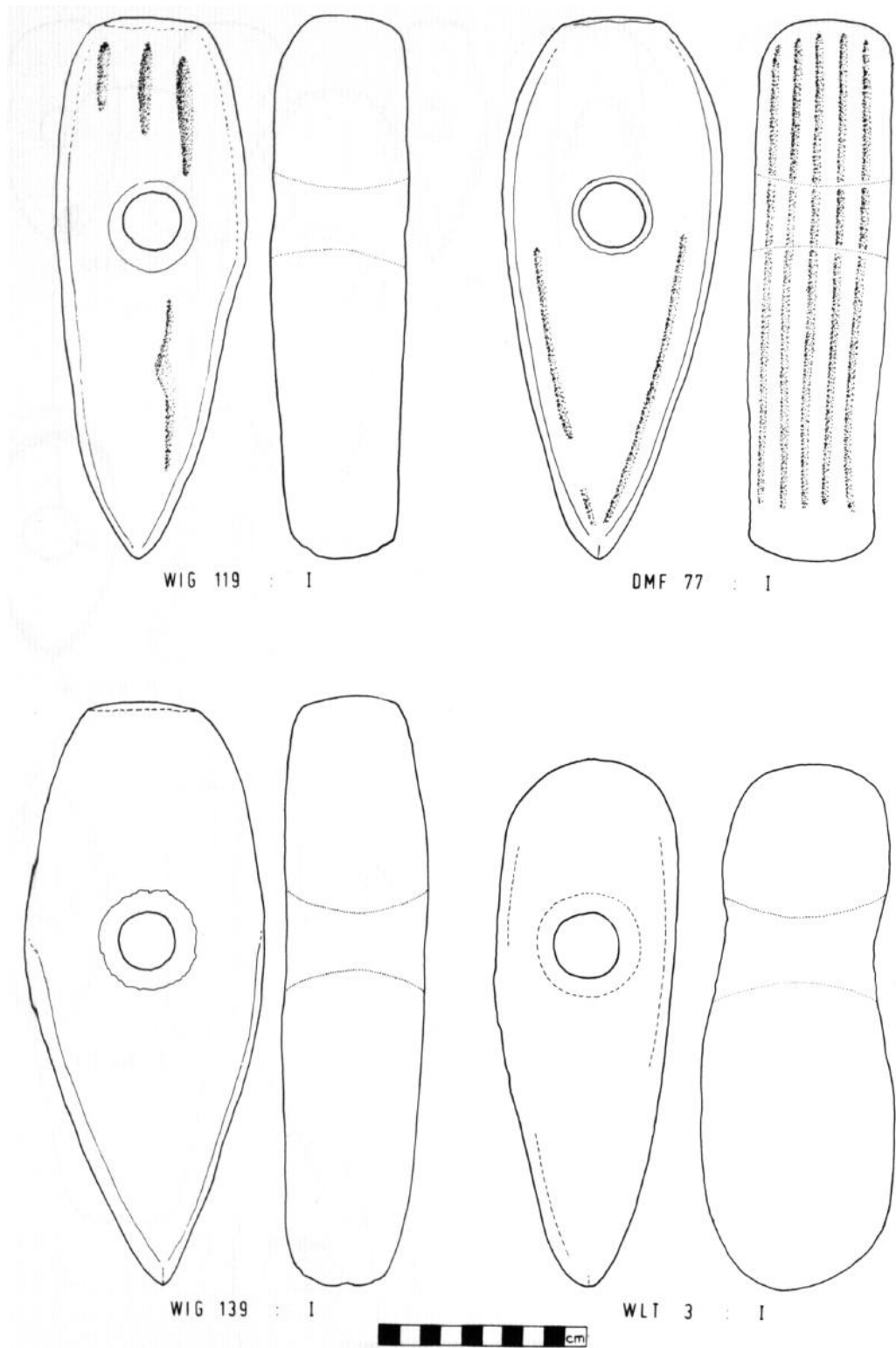


Fig 35 Some of the sampled axe-hammers: I, Class I (scale 1:3)

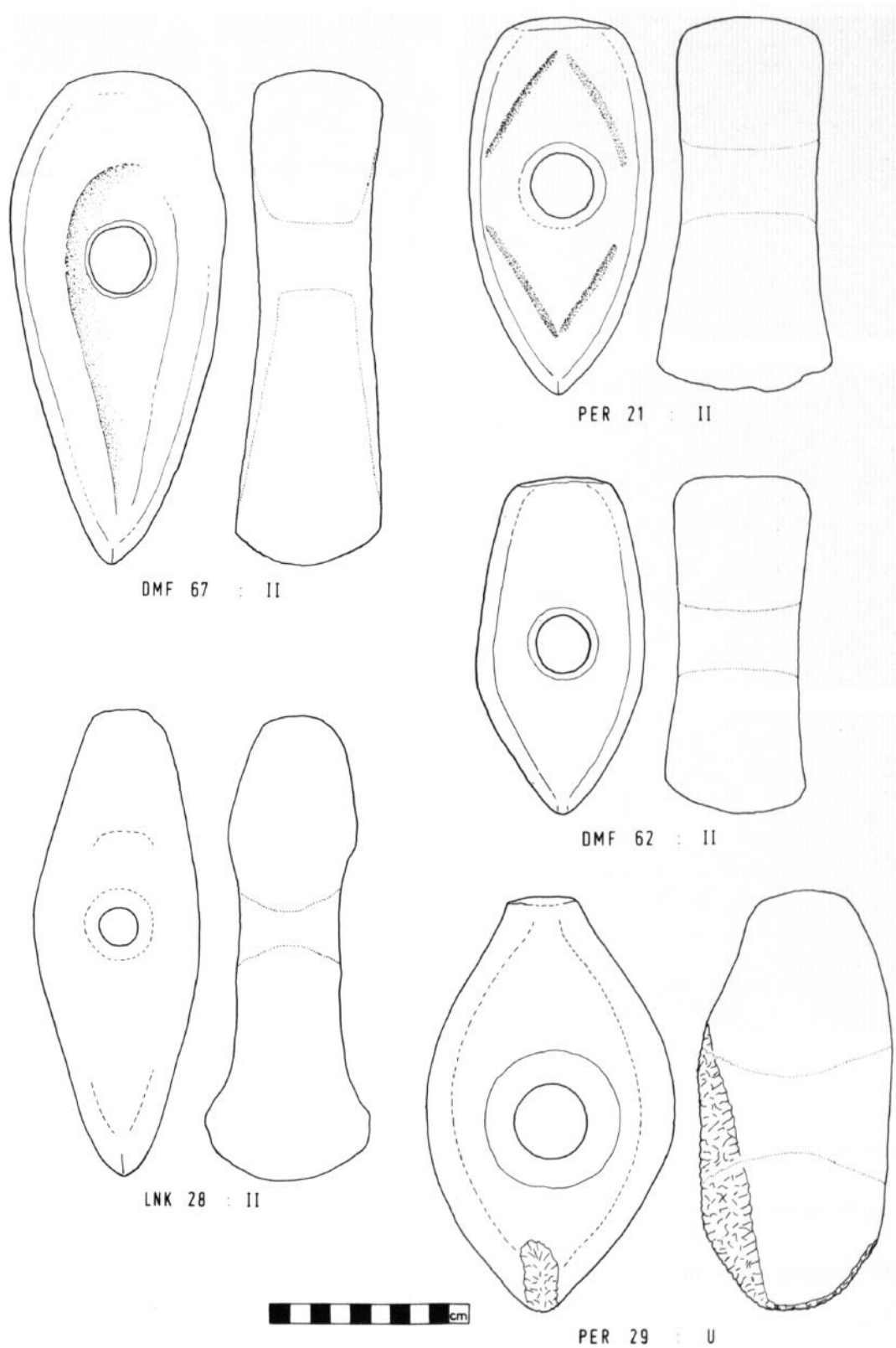


Fig 36 Some of the sampled axe-hammers: II, Class II; U, unclassified (scale 1:3)

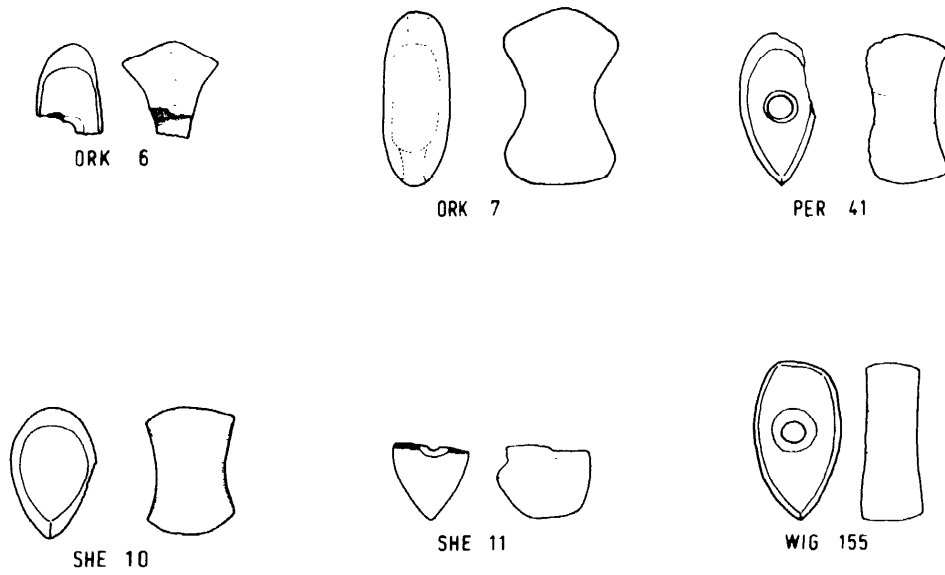


Fig 37 The sampled miniature battle-axes (scale 1:3)

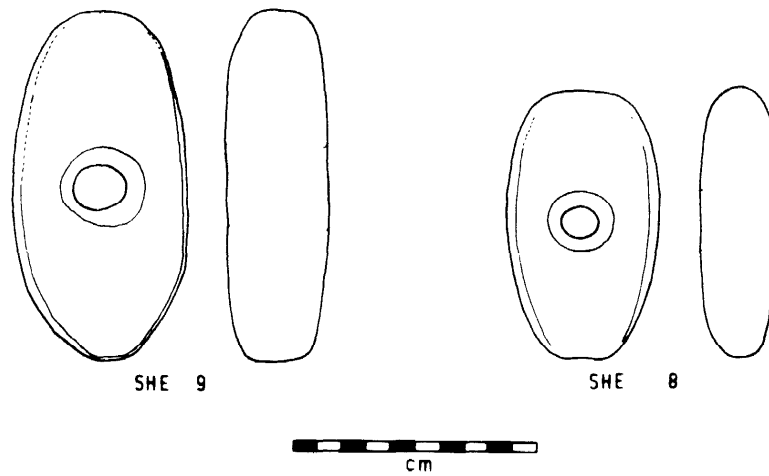


Fig 38 Two perforated implements from Shetland (scale 1:3)

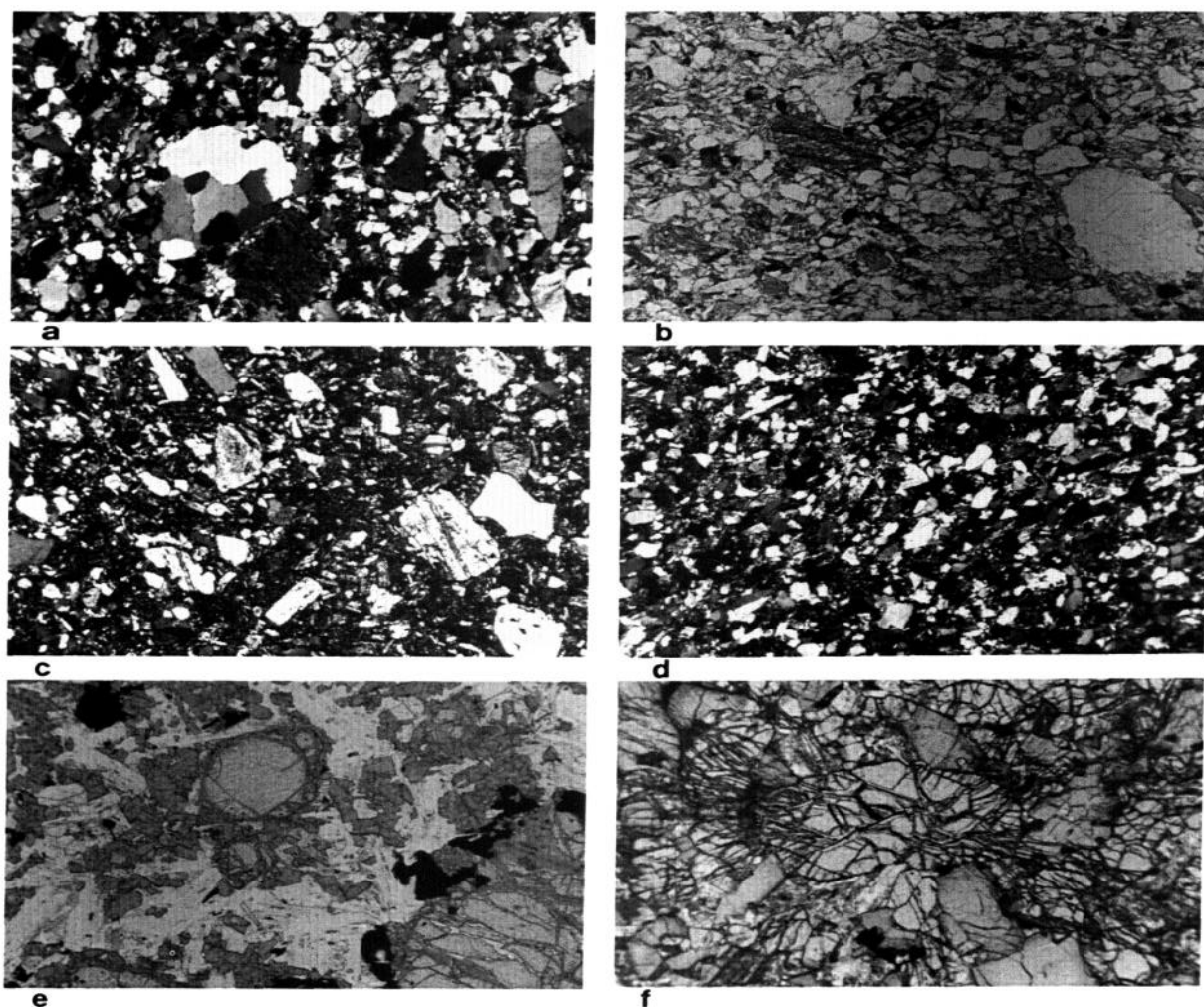


Fig 39 Photomicrographs of thin sections of implements (all photomicrographs 22x)

- a) Greywacke, Group XXVII. Quartz-rich, with a large grain of polycrystalline quartz at lower left. DMF 74, crossed nichols (cn)
- b) Gametiferous greywacke, Group XXVII(g). Quartz-rich, with a garnet grain and a fragment of crenulated schist at upper centre. DMF 68, plane polarized light (ppl)
- c) Volcanic-rich greywacke, Group XXVII(v). Abundant lithic fragments (mainly fine-grained basic igneous) with a twinned clinopyroxene and a clear quartz grain at centre right. LNK 28, cn
- d) Fine-grained greywacke, Groups XV and XXVII. WIG 121, cn
- e) Essexite, Group XXIX. Slightly altered olivines (lower right and centre) are surrounded by fresh feldspars and pink-brown titanite, and slightly altered feldspathoids. LNK 24, ppl
- f) Essexite, Group XXIX. Alteration of an euhedral olivine crystal (centre) has caused cracking in the surrounding grains of titanite and altered feldspars and feldspathoids. A YR 28, ppl

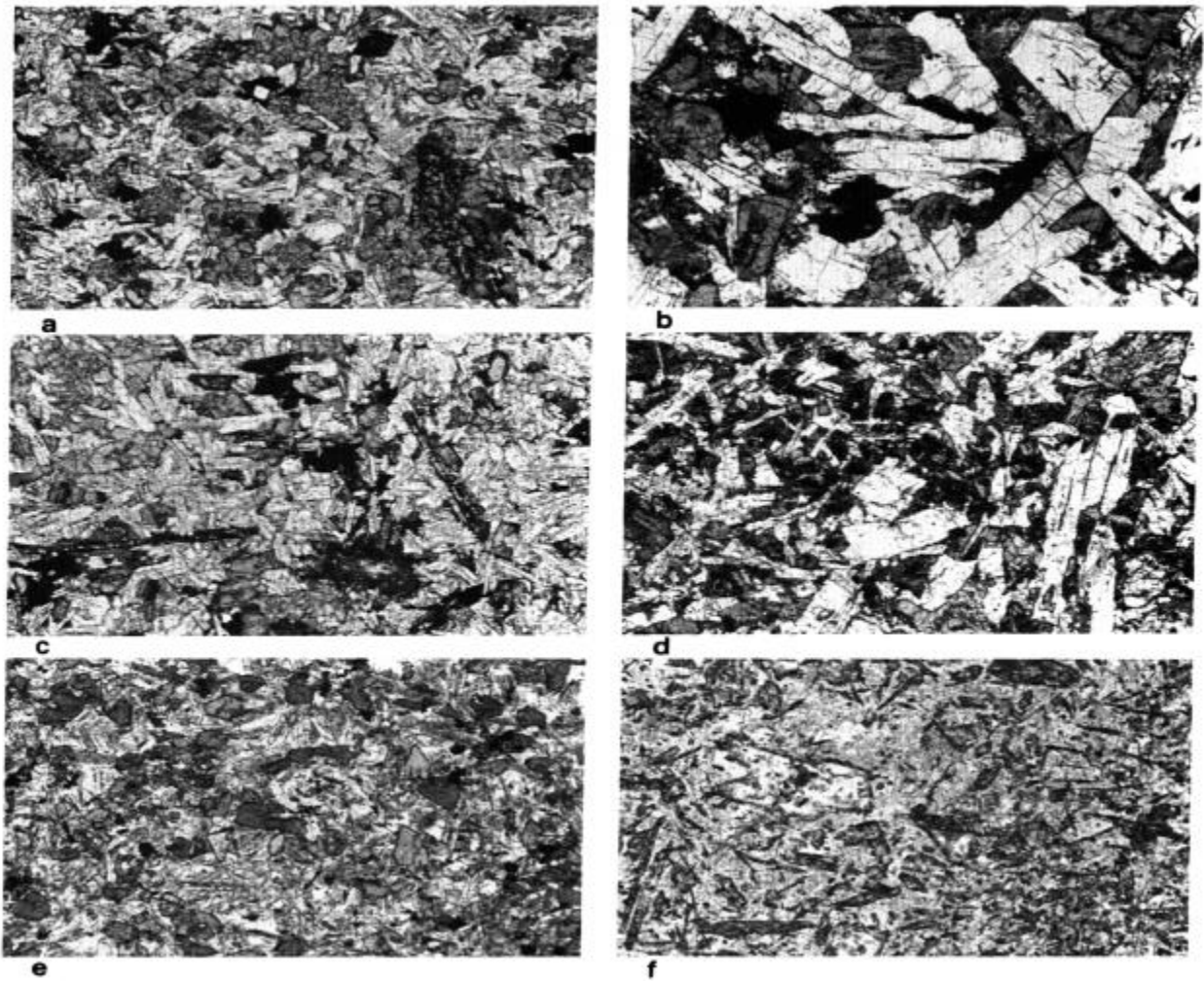


Fig 40 Photomicrographs of thin sections of implements (all photomicrographs 22x)

- a) Quartz dolerite, Groups XVIII and XXVIII. Altered labradoritic feldspar and clinopyroxene, with a larger orthopyroxene grain at lower right. PER 33, plane polarized light (ppl)
- b) Coarse-grained quartz dolerite, Group XXVIII(c). ABN 143, ppl
- c) Quartz dolerite, Groups XVIII and XXVIII. Elongate pigeonite laths visible at lower left and at centre right.' A pseudomorphed ?orthopyroxene grain at lower centre. LNK 30, ppl
- d) Quartz dolerite, Group XXVIII. Note the large variation in the size of the feldspar laths - a common feature of Scottish Carboniferous quartz dolerites. ML T 4, ppl
- e) Hornblende lamprophyre, Group XXX. The fresh, brown, euhedral hornblendes contrast with the more altered grains of feldspars. A clot of predominantly chloritic material is present in the centre. LNK 26, ppl
- f) Hornblende lamprophyre, Group XXX. Finer-grained than LNK 26, the hornblendes are present here as elongated prismatic crystals. A pseudomorphed phenocryst, centre left, is rimmed by small hornblendes. DMF 48, ppl

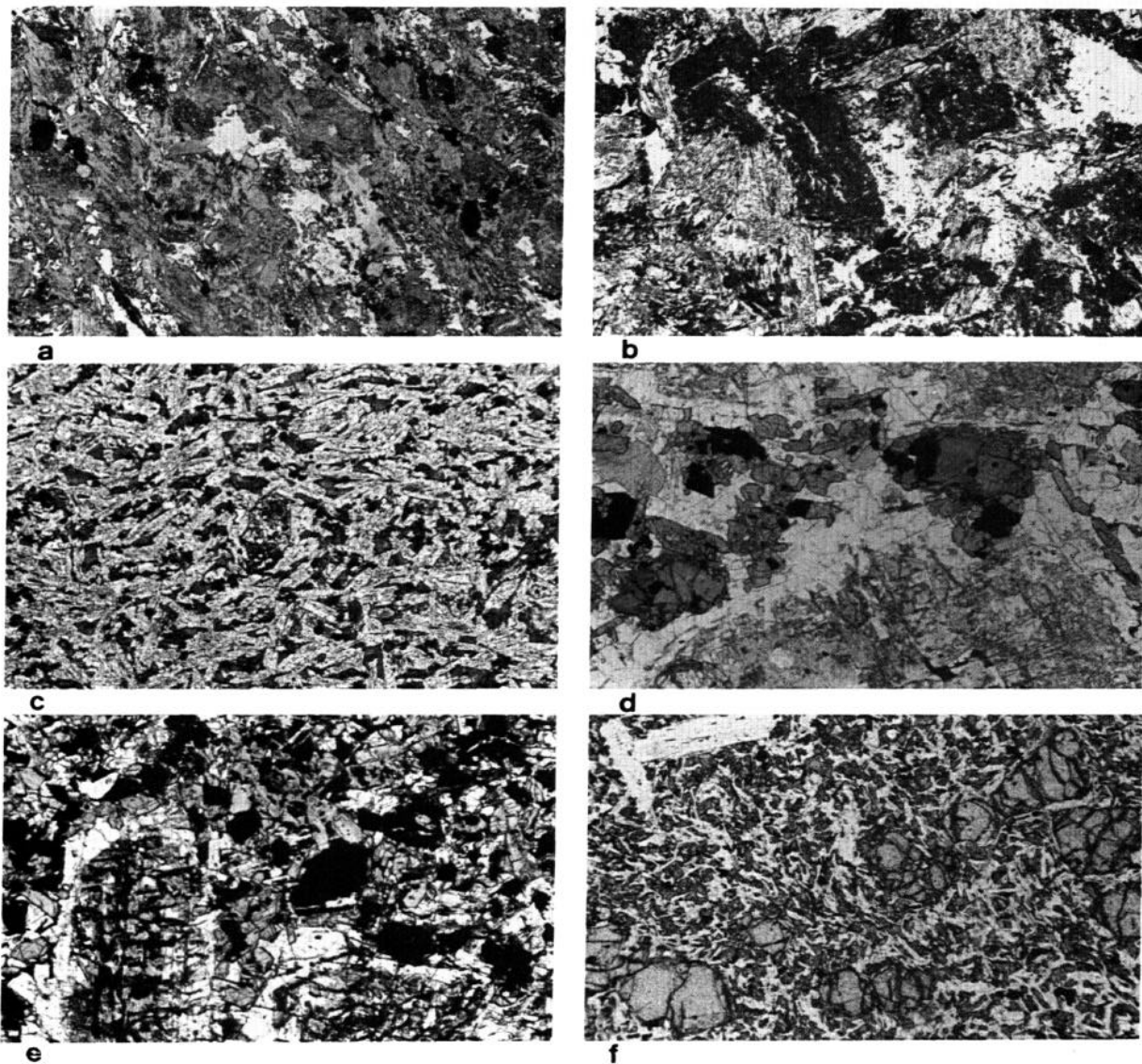


Fig 41 Photomicrographs of thin sections of implements (all photomicrographs 22x)

- a) Garnet amphibolite. Ragged aggregates of green amphibole, with patches of clear feldspar and quartz. Small garnet grains are present, one at centre left. Foliated texture. ABN 144, plane polarized light (ppl)
- b) Low grade metadolerite. Ragged pale-green actinolitic amphiboles, secondary feldspar and quartz, and much fine-grained clinozoisite and ?sphene. Relict igneous texture. PER 38, ppl
- c) Basic andesite, Group XXXI. Evenly sized feldspar laths and altered, brown, interstitial material. Small replaced phenocryst at centre. Flow structure visible. ORK 4, ppl
- d) Porphyritic olivine basalt, Markle type. Large (>2 mm), altered feldspar phenocrysts at top and bottom, and small (<2 mm), pseudomorphed olivine phenocrysts at lower left and upper right. PBL 11, ppl
- e) Porphyritic basalt, Markle type. Altered, with secondary opaques extensively developed. Large feldspar phenocrysts (>2 mm) at left and lower right. LNK 32, ppl
- f) Porphyritic olivine basalt, Jedburgh-Dalmeny type. Fresh, with numerous small (<2 mm) olivine phenocrysts, and some small feldspar phenocrysts. BRW 11, ppl

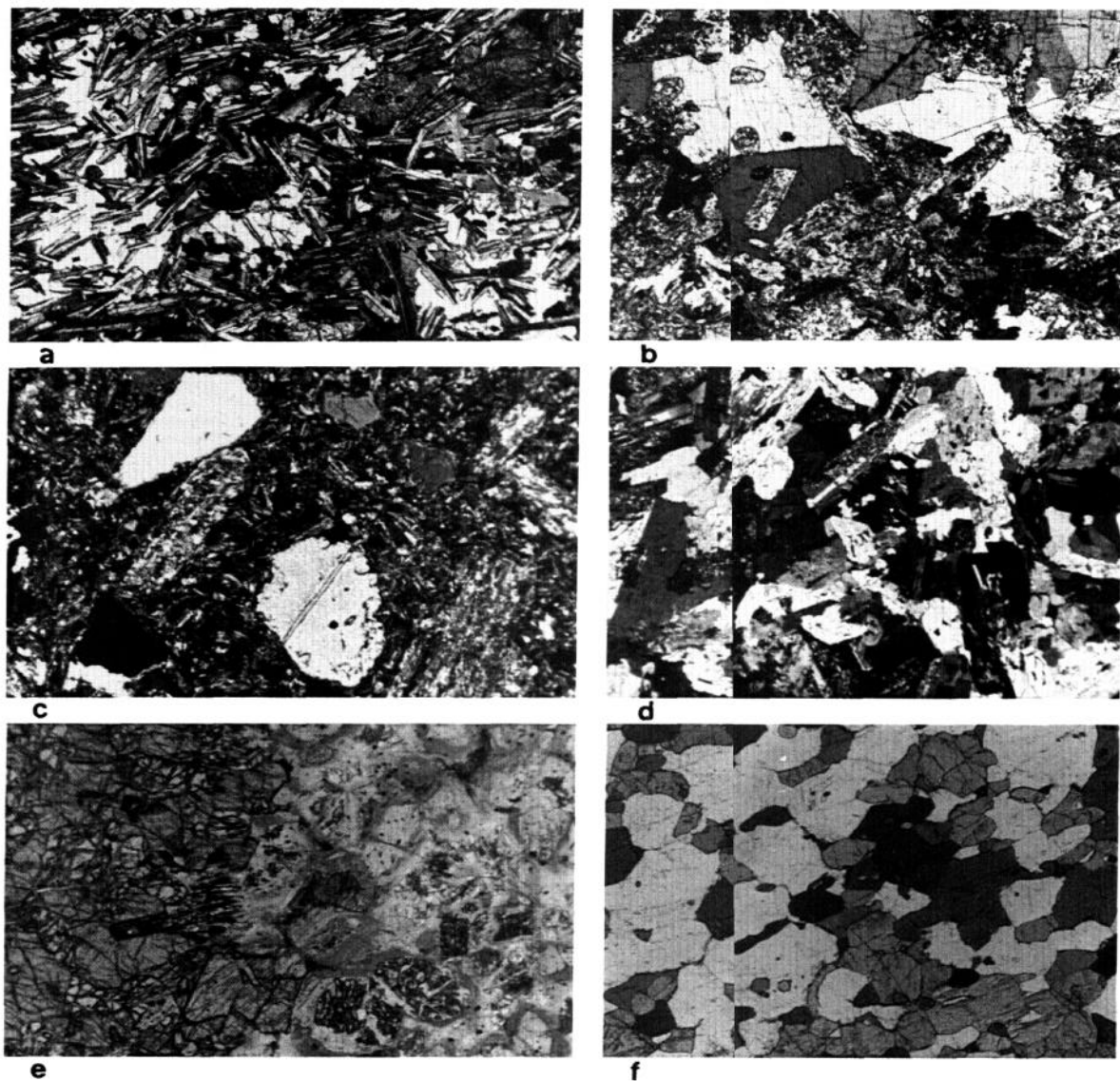


Fig 42 Photomicrographs of thin sections of implements (all photomicrographs 22x)

- a) Porphyritic olivine basalt, Jedburgh-Dalmeny type. Fresh, with ophitic text between augite and feldspar. Small (<2 mm) olivine phenocrysts at upper right. Flow structure of feldspar laths. WIG 107, crossed nichols (cn)
- b) Altered dolerite. Large, fresh augites ophitically enclose small feldspar laths which, like the remainder of the minerals, are very altered. ILY 3, cn
- c) Altered porphyritic microdiorite. Fresh clinopyroxene and altered feldspar phenocrysts. MLT 7, cn
- d) Tonalite. WIG 150, cn
- e) Picite, Group XII. The olivine grains, largely replaced by secondary minerals to the right, are relatively fresh where enclosed by the large titanite crystal at the left. FIF 8, plane polarized light (ppl)
- f) Plagioclase-orthopyroxene-amphibole-quartz granulite. MLT 9 (a foreign import), ppl

16 The petrological identification of stone implements from Wales

C H Houlder

Abstract

Over 600 stone implements and other items of Welsh provenance have been sectioned since 1952, covering all museum collections, and earlier results have been incorporated. Out of the half of these that have been assigned to groups, the known source at Penmaenmawr (Group VII) has contributed over 100. The unlocated north Pembrokeshire source of Group VIII, yielding 59, presents a challenge for field search. Groups VI, XII, XXI and XXIIIa+ b account for about 20 each. Notable among the perforated specimens are the heavy axe-hammers, of which only a few are placed in known groups, and some good examples of maceheads.

Introduction

The petrological identification of stone implements was placed on a formal basis in Wales in 1952, seven years after the scheme was started as a national effort by the Council for British Archaeology. In earlier years there had been independent submissions of specimens from Wales to petrologists who were already active in the research, but without coordination into a regional record.

The recording task was shared. Dr H N Savory at the National Museum of Wales began by dealing with specimens in that museum as well as the whole territory of the counties of Monmouth, Glamorgan, Brecknock and Radnor. The rest of Wales was covered by Mr C H Houlder from the Ancient Monuments Commission in Aberystwyth. Dr Savory submitted his specimens to Prof F W Shotton in Birmingham in batches of a dozen or so, while Mr Houlder secured the cooperation of the Department of Geology at the University College of Wales, Aberystwyth, both for sectioning and for petrographic description. The latter was at first done by Mr J I Platt, with the assistance of Dr N Rast, but since 1961 Dr W J Phillips has contributed all the descriptive and analytical work at Aberystwyth, where in 1972 all the records and microscopic slides were sent by Dr Savory and Prof Shotton respectively. Early records and slides have also been brought together from other known sources, to a current total of almost 700 specimens, and have been integrated in the list.

This report is the first full listing to be published. In the 30 years since the work began, interim lists of results have

been circulated to other regional workers, and the whole body of records has been available at the Welsh Royal Commission, to which body thanks are due for the continuous provision of office facilities in addition to the involvement of the time of one of its Investigators. The records will continue to be available at the Commission's National Monuments Record, both in their full form as Xerox copy, and eventually as selective printout from a computerized record.

The report does not aim to be an analytical study. Typology, chronology and distribution are now better served as nationwide research subjects, so the only comment on these topics here is restricted to the reporting of work already achieved, in the field and in analysis, with suggestions for future work. At the same time it will be found that entries in the list reveal analytical assessment of individual specimens, often following published classifications, but occasionally at variance with them. In following the standard listing format for this volume there has been little scope for indication of the variety of size and form of artefacts that share simple descriptive terms such as 'axe' or 'flake'. Only the full presentation of main dimensions and outline drawings would even begin to provide the researcher with adequate data for analysis. These details are available in the full record, along with additional information as to provenance, and it is to be hoped that enquiries will ensue.

The new county arrangement introduced in 1974 has been ignored in this report, as indeed it has been in the work of the Royal Commission. To allocate new numbering now would be a meaningless exercise. Accordingly the original county abbreviations determined by the CBA have been used, with the addition of a 'Wales' series for certain interesting items lacking county ascription. Gaps in the numbering arise from block allocation to different agents and other miscellaneous causes. Some listed specimens remain unsectioned for various reasons. In particular there was nothing to be gained from sectioning flint or chert at present, but in view of their relative scarcity in Wales descriptive recording was called for. Some listed specimens may not have been physically marked with their county number, particularly those included only retrospectively after sectioning by other agents. Whenever possible the number has been enclosed in a cartouche to distinguish it from accession and other numbering on an object.

Table 37 Distribution of grouped implements in Wales by county

County	Group	I	VI	VII	VIII	IX	XI	XII	XIII	XV	XVIII	XXI	XXIIIa	XXIIIb	Ungpd	Total
Anglesey	AN	<u>1</u>	3	24	3	—	—	1	<u>1</u>	—	<u>1</u>	3	—	—	22	59
Brecknock	BR	—	<u>1</u>	2	3	—	—	<u>2</u>	—	—	—	1	<u>1</u>	<u>2</u>	13	25
Caernarvonshire	CAE	—	<u>3</u>	31	2	1	—	—	—	—	—	6	—	—	73	116
Cardiganshire	CA	<u>1</u>	—	1	6	<u>1</u>	—	4	2	—	—	1	—	<u>2</u>	23	41
Carmarthenshire	CAR	—	—	2	9	—	—	1	<u>1</u>	—	—	<u>1</u>	—	—	31	45
Denbighshire	DEN	<u>1</u>	1	12	—	—	—	<u>1</u>	—	<u>3</u>	—	—	—	<u>1</u>	19	38
Flintshire	F	—	<u>9</u>	22	—	—	—	—	—	—	—	4	—	—	14	49
Glamorgan	GL	<u>7</u>	—	7	9	—	<u>1</u>	—	—	—	—	7	<u>2</u>	4	36	73
Merioneth	ME	—	1	7	1	—	—	<u>2</u>	—	—	—	<u>1</u>	—	<u>1</u>	10	24
Monmouthshire	M	<u>2</u>	1	3	3	—	—	—	<u>1</u>	—	—	—	—	—	6	16
Montgomeryshire	MO	—	<u>1</u>	2	1	—	—	4	—	—	—	<u>1</u>	—	(2)*	23	35
Pembrokeshire	P	1	—	1	23	—	<u>1</u>	—	2	—	—	—	<u>2</u>	<u>2</u>	57	89
Radnorshire	RA	<u>1</u>	<u>2</u>	5	6	—	—	4	<u>1</u>	—	—	—	—	—	19	38
Wales				1				1						1	4	7
Total		14	22	120	66	2	2	20	9	3	1	25	5	(2)*	14	655

In the case of findspots, whenever possible the entries here include the civil parish (community). The choice of preceding locality names (village, farm, natural feature, etc) is not intended to give precision, for which purpose the National Grid reference remains the true indicator. Welsh spellings have been carefully checked for acceptable orthography.

Petrological group numbers with 'variety' attached indicate good reasons for inclusion in spite of unusual petrographic features, as distinct from those to which 'near' is prefixed, on which caution is advised. Some doubt is also present for those with a query (?) attached. Notwithstanding these doubts, all such implements are included in the accompanying Tables 37 and 38. For ungrouped specimens a brief categorization has been chosen, with no intention of indicating close affinity to others of the same naming.

Discussion

As indicated above, it is not intended in this report to discuss the detailed typology, chronology or distribution of the Welsh sample. This section is therefore confined to an outline of the typological criteria used in describing the individual implements listed below, and summary tables of the distribution of grouped products by county and by implement type.

The petrological identifications are mainly of implements of classic Neolithic or Bronze Age types, together with those less diagnostic stone tools that are at least acceptable as potential members of the lithic repertoire of these periods. There are several objects of miscellaneous types of which some are clearly of prehistoric date, but others are possibly medieval or modern. These have been sectioned by request as a research service and were not regularly sought as survey subjects. They include some stone flakes never thought to be connected with the making of the larger tools, as well as specimens taken from standing field stones, and some items rejected eventually as non-artefacts. When specimens are noted as being fragments, they may be only small flakes showing some polished surface, and their description as axes can in such cases be only conjectural. In contrast with other papers in this volume, the term 'flake' has been reserved for specimens that exhibit no polished surface.

Unperforated implements

Besides the great variety of axes that are included, a number of different implement types will be found in the Welsh list, distinguished as follows:

adze having a marked asymmetry between the faces, of which one is virtually flat

Table 38 Products from petrological groups in Wales

Product	Group	I	VI	VII	VIII	IX	XI	XII	XIII	XV	XVIII	XXI	XXIIIa	XXIIIb	Total
Axe	<u>14</u>	<u>22</u>	94	56	<u>2</u>	<u>2</u>	—	<u>1</u>	—	—	—	20	<u>5</u>	(2)*	226
Roughout	—	—	19	5	—	—	—	—	—	—	—	3	—	—	27
Flake	—	—	<u>5</u>	<u>3</u>	—	—	—	—	—	—	—	<u>1</u>	—	—	9
Battle-axe	—	—	—	—	—	—	6	2	1	<u>1</u>	—	—	—	1	11
Axe-hammer	—	—	—	—	—	—	<u>14</u>	4	<u>2</u>	—	—	—	—	1	21
Mace	—	—	—	—	—	—	—	<u>2</u>	—	—	—	—	—	<u>4</u>	6
Other	—	—	2	2	—	—	—	—	—	—	—	1	—	—	5
Total	14	22	120	66	2	2	20	9	3	1	25	5	(2)*	14	305

* Two axes from Montgomeryshire are given as XXIII a/b

- chisel** exceptionally narrow, parallel-sided axe-form
- core-tool** flaked, bifacial tool, clearly not an axe throughout
- gouge** having a marked curve of blade when seen in end view
- hammer** any stone showing signs of use as a hammer (these may be perforated, partly perforated, unperforated or grooved, but excluding items primarily identifiable as maceheads)
- pick** flaked tool of elongated, pointed form, without cutting edge
- polisher** stone used for grinding or polishing other stones
- spearhead** flaked tool, pointed and of flattened section

Among unperforated implements Group VII is by far the most dominant, followed in south-west Wales by Group VIII and elsewhere by Group XXI. Groups I, VI, IX, XI and XXIIIa are represented only by axes.

Perforated implements

Typological studies in recent years by Roe (1966; 1968; 1979) and Fenton (1984), with reference back to Evans (1897), Gibson (1944), Rankine (1949) and others, have made it possible to assign perforated implements in the main to acceptable classifications. Perforated wedges are here distinguished from true axe-hammers.

The typology for battle-axes used here is that of Roe (1966). The term 'double-axe' is reserved for a two-bladed variant of the battle-axe form. Of the 27 items from Wales listed by Roe six have not been sectioned, and three (CA 27-8, F 26) are clearly neither battle-axes nor axe-hammers. Six further specimens (AN 11, CAE 28, CAR 44, DEN 41, ME 20, RA 34) have been added. The incidence by type of the 24 battle-axes listed here can be summarized as follows:

Table 39 Battle-axes from Wales

Type	Specimens	Total
IB	ME 6, RA 7, Wales 1	3
IC	P 10	1
II A	CAR 23, DEN 11	2
II B	DEN 41, ME 9	2
II C	CAR 1, MO 3, RA 4	3
III A	CAR 44	1
III B	CAE 13, 28; GL 49; MO 36; RA 34	5
III C	AN 13	1
IV B	MO 4	1
IV D	AN 11, ME 20	2
V A	P 11	1
V E	DEN 14	1
VES	Wales 6	1
		24

After the distinction of battle-axes as a type of implement, the remaining perforated tools having a

wedge-shaped edge and flattened or rounded butt have been classed as axe-hammers. However their separation by Roe (1979) into Class I (convex profile) and Class II (concave profile), with suffixes to indicate shaft-hole position, has not been followed. It would probably be more profitable to review the 63 listed items in terms of the experimental studies of Fenton (1984) on the source and manufacture of shaft-hole implements in general, with particular reference to the probable use of 'cobble' raw material. In this context, however, it can be noted that 21 of these axe-hammers are assigned to or judged approximate to known petrological groups, as indeed also are eleven battle-axes and six mace-heads. Among this grouped material Group XII is the most productive of battle-axes and axe-hammers, and XXIIIb accounts for four of the maceheads.

The typology for maces is that set out by Roe (1968; 1979). The Maesmore (Ovoid B) group takes its name from DEN 19. The incidence by type of the eighteen most diagnostic specimens is as follows:

Table 40 Maceheads from Wales

Type	Specimens	Total
Sceptre	CA 18	1
Ovoid B	DEN 16, 19, 24; F 11; MO 8; P 20	6
Ovoid C	CAE 109, CA 11, CAR45	3
Thames pestle	CAR 37, DEN 25. GL 87, P 13	4
Cushion	CAE 17; CAR 28; DEN 10, 15	4
		18

After the segregation of a number of perforated stones clearly designed to function as hammers, the remaining 26 perforated stones have been described as pebble-maces, without regard to the question whether a naturally suitable stone has merely been perforated without shaping, or whether any deliberate shaping has taken place. The evidence on this point has not been consistently recorded. With only two exceptions (CA 21-2) the boring is centrally placed in plan. It is consistently done by the hourglass technique from both faces, but in many cases the angular hole so produced has not been smoothed in profile for firm hafting.

These 26 pebble-maces were given a simple dimensional test for relative 'massiveness' by proportional comparison of the mean plan measurement with the central thickness. Nine were found to give a ratio under 2.2:2 (more massive), while 17 stood apart as less massive at over 2.5:1. Several specimens bear signs of use for hammering, but this could be secondary to an originally non-utilitarian purpose.

It should be noted that only one of the 26 implements of pebble-mace type is petrologically grouped (BR 14, Group XXIIIb). Most of the remainder are of ungrouped sediments, ashes and greywackes, with four of igneous rocks and two of quartzite.

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17 Petrological identification of stone implements from Ireland

EL Francis, P J Francis and J Preston

Abstract

Although 462 implements from Ireland have been examined, only the results for 189 well provenanced implements are given in this preliminary report. Group IX axes are the most abundant. Other metamorphic rocks and sedimentary rocks are well represented. Igneous rocks are less common but include tuffs resembling Group VI. Several axes of greenschist may have a common origin

Introduction

A detailed study has already been made of the porcellanite axes from Tievebullagh and Rathlin (Jope 1952; Morey & Sabine 1952), and attention drawn to the scant knowledge of other rock types and sources used in Ireland. Since that publication the total number of implements examined has risen to 462, drawn from material in the Belfast, Armagh and Ashmolean Museums, the Northern Ireland Archaeological Survey, the Queen's University, Belfast, and various private collections. These were identified by Dr J Preston in response to various routine enquiries made by a number of archaeologists over a period of years. There were therefore no regular sampling procedures, and no attempts at statistical analysis. Instead the information gained was simply gathered together, and is now presented here.

The identification of the individual rock type was based on examination under the binocular and petrological microscope. Unknown rock types were thin-sectioned by kind permission of the authorities concerned. Surface chips and scrapings mounted in a suitable refractive index liquid or in Canada Balsam were used to confirm the mineralogy and texture of the better known examples.

Of the 462 implements examined, only 189 (41%) could be assigned reasonable find localities, and these alone are listed at the end of this report. They are distributed over most areas of Northern Ireland, with a few from adjacent parts of Eire (U 166, 332), and also a collection from Dalkey Island, Dublin (U 226-38). Despite the drawbacks resulting from the manner of sampling, they should

at least be representative of the rock types used by prehistoric man in this area. It should be noted that the prefix 'U' has been used in the past (Jope 1952) to denote all axes identified by Dr Preston. This system of numbering has been retained in the present listing and, to save confusion, extended to axes to which no 'U' serial number was previously assigned. It is important to stress that this prefix is not an 'Ulster' area assignation. The assigning of area prefixes was not prevalent at the time of compilation, and the system is difficult to change at this late stage. Porcellanite axes in the sequence U 1-42 have been published previously (Jope 1952) but are included again here for completeness.★

Group IX porcellanites of Tievebullagh type are more abundant than any other rock type, and account for 263 (57%) of all the axes examined. There are 42 (9%) Group IX axes with good find localities. The petrology of this group, and the working floors located at Tievebullagh and Rathlin, have been fully described previously (Jope 1952; Morey & Sabine 1952; Jope & Preston 1953; Agrell & Langley 1958), and need no further discussion here.

The other rocks found are described below, but no attempt is made to create additional group classifications after the manner of Keiller *et al* (1941) or later workers, for very few rock types can be located in outcrop. The hope that with further study unique sources would be traced has not yet been realized. Possibly the petrographic descriptions given below and the few comments on provenance may help to lead future workers to such sites.

Petrology

Sedimentary rocks

Seventy-eight (some 17%) of the axes seen are made of shale, mudstone, siltstone, greywacke, sandstone, chert, flint or clay ironstone.

Shale and mudstone are the most common. They are variously coloured, but a large proportion are black or dark grey, and show every gradation from a soft, dull rock

★ *Editors' note:* Twelve implements from Ireland were included in the Fourth Report (Evens *et al* 1962) and are sub-joined to the list in this paper, but are not counted in these figures so as to avoid the possibility of duplication.

to a harder, fine-grained hornfels which takes an excellent polish. Woodman (1977), in excavations at Newferry, Co Antrim, has shown that these can be Mesolithic, and date from as far back as c 5000 bc. A selection of such material is being examined by Johnston and Woodman in an attempt to locate the source. Graded bedding, fine lamination, penecontemporaneous brecciation, and small-scale slump structures characterize individual axes. Typically the sediment possesses a fine matrix of green chlorite discoloured by carbonaceous material or tiny grains of iron ore. Larger grains of angular quartz, ferromagnesian minerals, iron ore and chlorite flakes are littered through this matrix; some coarser-grained, silty layers may be present.

Chert of a black variety may easily be confused in the hand specimen with the more indurated shales and mudstones, but the microfabric is quite distinct from that of the low-grade hornfels described below. One black axe (U 309), originally a well bedded argillaceous rock, has a matrix of a fine-grained quartz mosaic rich in iron ore grains and carbonaceous material. The coarser-grained bands contained abundant calcite rhombs, many of which are now replaced by the quartz mosaic.

Another silicified rock of brown colour, used for Bann-type flakes in the Lough Neagh region, is commonly worked into arrowheads. One implement (U 310), a spike of unusual shape, has been examined. The rock is a grey-brown chert with the texture of siltstone. A peculiar structure defined by carbonaceous impurity resembles small-scale festoon bedding, and is always present. A brown chert with this same characteristic structure occurs in abundance in the Carboniferous limestones? notably the Dartry Limestone, of co Fermanagh. The matrix of this rock is a fine-grained mosaic of quartz, with tiny scales of sericite and chlorite. A few carbonate rhombs are pseudomorphed by the matrix, some larger quartz crystals occur, and coarse-grained nests of interlocking quartz crystals may be present.

Flint from the Cretaceous Chalk has been used extensively. The rock is readily identified in the hand specimen, and none has been examined petrographically in the present sample. None bore reasonable find data, and so no flint axes are listed in this report.

Metamorphic rocks

Both thermally and regionally metamorphosed rocks have been used in the manufacture of stone axes. Excluding Group IX, 87 (18%) of all axes were of metamorphic rock types, of which 55 (11%) had localities. Hornfels and schists are described below. The thermally altered rocks are tough, hard and fine-grained, and ideally suited to axe-usage.

Twenty-one implements (4.5%) are made of hornfels. Black or dark grey in colour, they are obviously derived from a similar rock to the dark shales and mudstones noted above. Their sedimentary banding may be distorted by plastic deformation, and individual bedding planes, in some instances, are defined by iron pyrites. Hardness can vary over the surface of a single axe, but it is usually greater than that of steel. The rock matrix has recrystallized in response to a low-grade thermal metamorphism; quartz and chlorite are the characteristic

minerals. Larger chlorite flakes, irregular grains of iron ore, calcite rhombs and spots of carbonaceous material are all of coarser grain size than the matrix. One axe (U 15) has a skin of light grey colour in which the iron ore has been largely removed by leaching following a strong oxidation. Such a patina could be the result of natural weathering or artificial baking.

One axe (U 159) is a hornfelsed calcareous silt. Layers of well rounded quartz grains define the sedimentary bedding. The ground-mass of the rock is a mosaic of quartz with flakes of pale brown biotite, granules of colourless epidote, plates of a pale green amphibole, and a little chlorite.

Schists of many kinds have been identified. Many are green schists derived from basic igneous rocks, some of which may be of Mesolithic age (Woodman 1977). Others (some 32 in all) have only been identified in hand specimen. These axes form no coherent group, but include massive and fissile rocks of coarse or fine grain, and of quartzose, sericitic, chloritic, hornblendic or albitic composition. Five examples taken from the Belfast Museum collections proved to be of albite schist (eg U 323, 325) typical of the Dalradian rocks in the north-east corner of Ireland around Torr Head and Ballycastle.

The hornblende schists and massive amphibolites are most probably regionally metamorphosed basic igneous rocks, tuffs, flows or intrusives. Sixteen examples all contained hornblende and plagioclase as their essential minerals. The amphibole is usually pleochroic from blue-green through bright green to pale brown; the colour varies in intensity, and the habit may be that of large hypidiomorphic plates or slender needles. In the latter case a felted ground-mass of hornblende needles exists in which radiating tufts of the same mineral may develop, as in axe U 77. The plagioclase, of intermediate composition, is coarse to line-grained in size and granular in habit; it is rarely twinned, and commonly full of small hornblende crystals. Iron ore and sphene are common accessory minerals, and brown biotite is recorded from one example (U 9). Where a lower grade of metamorphism has been experienced, chlorite may occur along with hornblende, as for instance in U 57; the feldspar then appears as porphyroblasts of oligoclase in a line-grained schistose matrix.

Igneous rocks

Forty-four of the axes (9.5%) were made of igneous rocks of volcanic or plutonic origin. They ranged in composition from granitic to basaltic. Among basaltic rocks the gabbros and saussuritized gabbros and dolerites represent one important group, and the metavolcanics, tuffs and flows, another. Some of the latter clearly belong to Group VI, while others are closely comparable. Less common igneous rocks include Ailsa Craig microgranite (U 21), one of relatively fresh quartz dolerite (U 78), four of basalt of probable Tertiary age (U 237, 252, 256, 344), and one of pyroxene granodiorite (U 120)) which is described in more detail below. Jope (1952) also mentions axes of pink Mourne Granite, and Keiller (1936) records two finds from Co Antrim of Presely stone.

Among the metavolcanics a number of axes examined closely resembled the epidotized tuff from Great Langdale, and are possibly derived from this source. A detailed

petrography is given by Bunch and Fell (1949). U 110 has already been sectioned and identified by the Geological Survey of Eire as a 'dacitic tuff, fine-grained, unsorted, very weakly bedded to non-bedded; a crystal-lithic tuff of intermediate composition'. Four axes from the Belfast Museum (U 249-52) are identical in hand specimen and thin section with the Group VI rock, only slight variations in grain-size distinguishing one from the other. One specimen is well located from a Neolithic settlement on the Dundrum Sandhills of Co Down.

Some axes differ from the Group VI material in certain characters, but are still typically Lower Palaeozoic volcanics. U 37 has already been described (Jope & Preston 1953) as an intermediate tuff with hornblende instead of epidote. A Lyles Hill flake (U 60) collected by Prof E E Evans differs both in mineralogy and texture. It is a tuff of intermediate composition, but the crystal and lava fragments are not representative of Group VI. A common pyroclast is a fine-grained lava in which oligoclase defines a flow structure in a dusty isotropic base; occasional feldspar-free fragments of a similar lava type also occur. Quartz in angular grains is present, and the abundant oligoclase-andesine feldspars are fragments of larger laths. Chloritic pseudomorphs after some ferromagnesian mineral and altered flakes of brown biotite also appear. The matrix, too, bears no resemblance to the Group VI tuff, being feldspathic with a yellow-brown colouration imparted by limonitic dust and granules. Tiny sericite flakes occur as an alteration of the plagioclase, and nests of colourless chlorite appear in the ground-mass.

A further eleven axes are epidotized volcanics of intermediate composition, but homogeneity of texture and the absence of fragmental material suggests a lava rather than a tuff as the rock type. Pale yellow-green epidote in granules and stumpy prisms, often in clusters, is associated with slender needles of pale green hornblende, and both are set in a matrix of oligoclase and minute grains of epidote. The texture is principally a metamorphic one, but in some instances a relict igneous texture or flow structure can be recognized in the matrix.

A basic igneous rock of doleritic or gabbroic grain size has been used to make *some* of the larger and more massive stone axes. The rock is greenschist. Four axes (U 160-3) collected from the bed of the R Erne at Portora (Northern Ireland Archaeological Survey) are typical examples. They could have a common origin, though no outcrop has yet been located. In the less altered rock the fresh clinopyroxene is pinkish in thin section, shows a fine schiller and a marginal alteration to green hornblende. In some of the sections the whole grain of pyroxene may be pseudomorphed by pale green fibrous uraltite, the original hornblende rim remaining visible by its stronger colouration. Pale green, weakly birefringent chlorite occurs in the most altered parts of the rock. The plagioclase is oligoclastic in composition, but is also turbid with epidote granules, calcite and sericite. The stumpy, idiomorphic laths of feldspar impart a characteristic texture to the rock; quartz occurs interstitially to the feldspar, and in places a tendency to graphic intergrowth with an alkali feldspar can be discerned. Brown biotite, sphene and iron ore are the accessory minerals, and all are large enough to be seen with the naked eye. The magnetite is skeletal, and may be fringed with hornblende needles against the feldspar.

Minor crush zones traverse the rock, and the more altered parts of the gabbro resemble amphibolite. A micrometric analysis shows an original composition of 35% pyroxene, 11% hornblende, 43% plagioclase, 4% quartz and 4% magnetite. Eighteen other axes are of comparable rock type.

The granodiorite axe U 120 mentioned above is unprovenanced, but is described here in detail for the sake of accessibility. The rock is a medium-grained, grey-blue stone weathering to a grey colour. The pyroxene is a colourless diopsidic augite, stained a pale brown in places and altered marginally to pale-green uraltitic hornblende. An hourglass structure in some grains may be due to a higher titanium content. Hornblende also appears as individual crystals and clusters in the hypidiomorphic ground-mass. The feldspar is medium oligoclase, turbid with alteration products of sericite and epidote. Individual crystals or an intergrowth of alkali feldspar and quartz occupy the mesostasis. Accessory minerals are skeletal magnetite and associated sphene, slender needles of apatite, and colourless epidote. A micrometric analysis gave the following mineral proportions: 22% pyroxene, 7% hornblende, 48% plagioclase, 16% graphic intergrowth, 6% iron ore, 1% apatite and sphene.

Provenance

The correlation of a rock type with a particular outcropping presents a problem fraught with uncertainty for all but the most unusual rock types. In some instances the existence of a stone axe factory site on the outcrop or scree is convincing evidence of the relationship, but for axes which are distributed over a wide area the possible existence of other outcrops must not be overlooked.

Among the rock types described above, some allocation to existing rock groups and known outcrops can be made. The Tievebulliagh type porcellanite, Group IX, outcrops on Tievebulliagh, Co Antrim, and at Brockley Mill on Rathlin Island, two localities where the laterites of the Tertiary Interbasaltic Horizon are baked against doleritic intrusions. Similar porcellanites occur as small inclusions in the Slemish dolerite plug, brought up from depth, and in view of the wide distribution of lateritic material throughout the Tertiary Igneous Province of Great Britain it is still possible, as claimed by Sabine (Morey & Sabine 1952), that early man found other sources of this material.

A few axes may with confidence be referred to Group VI, but the group of metavolcanics as a whole must be considered with care. Such rocks appear in many areas of Lower Palaeozoic formations, and until every flow, tuff and intrusive has been examined, or a factory site located, it would be unwise to make too strong a reference.

The gabbro-amphibolite-greenschist axes possibly form a coherent group, in that all could be derived from the same igneous rock mass. They are, however, common rock types in Lower Palaeozoic/Dalradian terrain, and more than one source may have been used. The pyroxene granodiorite may be associated with igneous intrusion of this kind, and in Northern Ireland the Tyrone Igneous Complex west of Lough Neagh would be one possible source.

In a similar way the black shale/hornfels rocks probably form another group, and may be referable to a single source. Dark argillaceous rocks occur among the Lower Palaeozoic greywackes of Co Down and Armagh.

Porcellanites of Lias shale at Portrush and Carboniferous fireclays at Fairhead are too light in colour and possess a distinctive mineralogy and texture of their own.

Dark-coloured cherts are common in Lower Palaeozoic and Carboniferous formations. The Dartry Limestone of Co Fermanagh crops out over an extensive region and yields both dark grey and brown chert in abundance; as noted above, the individual brown chert concretions that occur between the films of dark chert along the bedding planes are identical with the material of the Bann flakes.

The Ailsa Craig microgranite is easily recognized and related to its source. Early man probably found and used the erratic boulders left by the Pleistocene ice sheets.

This use of erratic boulders must not be overlooked as a source of other rock types. Livens (1958) has stressed this aspect of his work on implement petrology in Scotland, noting that the glacial erratics are 'all too often boulders of hard, fine-grained stone, such as would be strongly favoured for manufacturing stone axes'.

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Lists of identifications

Introduction

These lists of identifications have been computerized and produced by the Royal Commission on the Historical Monuments of England, and may be consulted on the computer of the National Monuments Record, Fortress House, 23 Savile Row, London W1X 1AB. The program has coped admirably with data from many different sources, often

inconsistent, and has standardized them in the process. However, the program can only break words at the end of a column, and cannot 'take down' whole words to avoid bad word-breaks. Many of these have been circumvented, but the publishers apologize for those which, unavoidably, remain.

South-west England

Explanation of the column headings

The present, computerized list is an amalgamation of two original lists: a) identifications published in Evens *et al* (1962; 1972); b) additional identifications from 1972 to August 1983. The latter comprise Avon, Berkshire 68-72, Cornwall 356-414, Devon 132-59, Dorset 117-61, Gloucestershire 95-129, Somerset 122-49, and Wiltshire 38-1-413.

official use and some farms cannot now be identified from the names originally recorded. Barrows in Dorset, Gloucestershire and Wiltshire are identified by their parish numbers in the county lists published by Grinsell (1957; 1959), and O'Neil and Grinsell (1961). Each barrow number is prefaced by 'G' to obviate confusion with earlier systems of numeration employed in those counties.

Type of specimen

As far as possible, portions of implements are described as (pt) when at least half is present and as (fr) when less than half is present. Flakes retaining traces of grinding on the dorsal surfaces are assumed to derive from axes.

No distinction is made between axes and implements which might be classed as adzes; some adze-like profiles seem to result from asymmetrical resharpening. A number of axes from Cornwall are extremely irregular in shape and may lack any trace of grinding. Because nearly all are made of coarse-textured local rocks which are very susceptible to weathering, it is difficult to decide whether these are unfinished axes (roughouts) or whether the present condition results from partial decomposition. Such axes are therefore described as 'weathered or r-o'.

The classification of battle-axes, axe-hammers, shaft-hole adzes, maces and pebble-hammers follows that proposed by Roe (1979), with revision of previously published descriptions where necessary. An example of a perforated disc is illustrated in Evens *et al* (1972, fig5: WI 305).

The term 'miner's tool' refers to heavy implements characterized by a broad girth-groove and ends that are respectively blunt and tapered in section. 'Grooved hammers' have two blunt ends and a narrower girth-groove. 'Light hammers' are small, symmetrical implements, rectangular in cross-section, with polished surfaces. 'Spongefingers' are slender, elongated artefacts of uncertain function, distinguished from hoes by their plano-convex cross-sections. Unclassifiable specimens, sometimes finely made, are listed as 'misc artefacts'.

Locality

A few of the find-places given in the 1962 list are amended and information in both the 1962 and 1972 lists has often been amplified by the addition of parish names or names of localities within the parishes. The first name given in the following list is usually that of the parish (occasionally of the nearest town or large village), followed by that of the specific find-place, where known. Some parish names are no longer in

National Grid Reference

Many of the references given in the 1962 list have been revised, but the changes are generally too slight to affect distribution patterns on small-scale maps. When a specimen is attributed only to a parish, the reference now given is to the one-kilometre square containing the parish church or other place of worship. A question-mark (?) follows the four-figure parish reference in Instances when a specimen is said to have been found 'near' a town or village, when a specific locality within a parish cannot be identified, or when the attribution is to a natural feature (eg down, moor, river) which extends beyond the limits of a one-kilometre square. References from serial number 1201 onwards are usually those supplied when specimens were submitted for examination.

Museum or collection

Museum accession or registration numbers are given when known, as is the present location of any specimens known to have been transferred from private ownership to museums or between museums. Details of private ownership are omitted; many of the older records are certainly or possibly misleading in this respect. Nine implements formerly in museums are shown as 'destroyed' or 'lost': five axes in Bristol City Museum (G 1, 2; SO 11; WI 34-35) were destroyed by enemy action in 1940; three axes from Plymouth City Museum (CO 266; DEV 98-99) were lost after they had been examined; a jadeite axe (DO 90a) had disappeared from the Pitt-Rivers Museum at Farnham by 1975. Four rock specimens from Stonehenge (WI 87-89, 97), formerly in the collection of the late Dr J F S Stone, cannot now be traced.

Petrological group or identification

There are a number of emendations to identifications as originally published (1962; 1972); most of them result from petrological reassessments but a few are corrections of errors of transcription. Revised identifications affecting Groups I, VII, XVI, XVIII, and jadeite have been signalled under the appropriate headings in the text above. Other specimens involved (some of them already noted in Evens *et al* 1972) are: CO 229; DO 37; G12; WI 16, 25, 104, 319.

Abbreviations

AKM	Alexander Keiller Museum, Avebury
BCM	Bristol City Museum
BM(NH)	British Museum (Natural History), London
BRM	Bath Roman Museum
BWSM	Bishop Wordsworth School Museum. Salisbury
CESM	Carn Euny Site Museum
CM	Cheltenham Art Gallery and Museum
Corinium	Corinium Museum, Cirencester
CPLM	Camborne Public Library and Museum
DCM	Dorset County Museum, Dorchester
DM	Museum of the Wiltshire Archaeological and Natural History Society, Devizes
EM	Royal Albert Memorial Museum, Exeter
GCM	Gloucester City Museum
GEW	Guildhall Exhibition. Windsor
GM	Gussage Museum, Down Farm, Woodcutts, Salisbury
IAL	Institute of Archaeology, London
KS	Kingswood School, Bath
LCM	Leeds City Museum
LM	Launceston Museum
NBM	Newbury Borough Museum
NDA	North Devon Athenaeum, Barnstaple
NMA	National Museum of Antiquities. Edinburgh
PCMAG	Plymouth City Museum and Art Gallery

PCRCM	Pengelly Cave Research Centre Museum, Buckfastleigh
P M	Penzance Museum
R-B	Romano-British
RC	Rendcomb College
R-CAGM	Russell-Cotes Art Gallery and Museum, Bournemouth
RHM	Red House Museum. Christchurch
RM	Reading Museum
SBC	St Buryan church, Cornwall
SCM	Somerset County Museum. Taunton
SIOCS	St Ives Old Cornwall Society
SLP	Somerset Levels Project
SM	Swindon Museum
SMM	Shepton Mallet Museum
SNHS	Sturminster Newton High School
SSWM	Salisbury and South Wiltshire Museum
TG	The Tribunal, Glastonbury
TM	County Museum, Truro
TNHSM	Torquay Natural History Society Museum
UBSS	University of Bristol Spelaeological Society
WM	Wells Museum
WMHM	Wellcome Museum of the History of Medicine, Science, Museum, London
ZWM	Zennor Wavside Museum

A v o n

N0.	Ser	Implement	Locality	N.G.R	Accession	Prtrulogy	N o t e
1	1673	axe	Batheaston. The Batch	ST 7767	PP	tuff	*
2	1674	b-a. I	Yatton	ST 427664	PP	XV	
3	1754	axe. flake	Horton. nr Grckstone Fm	ST 783830	PP	tuff	*
4	1790	misc. hand-axe. ova- te	Bristol. Henleaze	ST 581763	PP	fossiliferous limestone	

Berkshire

No	Ser.	Implement	Locality	NGR	Accession	Petrology	Note
1	20	axe	Newbury, Long Meadows	SU 4666?	NBM 46/1942	I	
20x	24	s-h adze	Aston	SU 5586	AshM 1896.54	greenstone	
3	31	axe	Bradfield	SU 6072	AshM 1869.19	I	
4	37	b-a. III	Peasmore	su 4577	AshM N.C. 230	XVIII	
50x	40	axe	Sutton Courtenay	SU 488940	AshM 1926.97	greenstone	*
60X	217	axe	Sutton courtenay	SU 488940	AshM 1938.745a	VI	
70x	220	axe. fr	Abingdon	su 512982	AshM 1928.411d	VI	*
8	233	see BER I	-				*
9	240	mace. ovoid B	Shefford?	SU 3875?	NBM 1918-19	greenstone	
10	241	mace. Thames pestle	Cold Ash	SU 5169	NBM 1930-20	I	
11	408	axe	R Lambourn	SU 37	SSWM 2107	quartz dolerite	
12	638	axe. fr	nr Lambourn	SU 3278?	AshM 1955.93	VI	
130x	639	axe	Faringdon	SU 2895	AshM 1955. 94	VI	
140x	640	axe	Faringdon	SU 2895	AshM 1955. 95	greenstone	
15	859	misc artefact, fr	Lambourn, Farncombe Down	SU 293781	DM	felsite	
160X	962	axe	Charney Bassett. Cherbury Camp	SU 3796	AshM 1955.103C	I	
17	1167	mace, ovoid B	Sonning, R Thames	SU 757758	RM 54.57	quartzite	
18	1168	axe, N American	Theale	SU 629706	RM 257.49	hornblende granite (foreign)	*
19	1174	axe	Ashampstead. Slade Gate	SU 588748	RM 73. 47	XVIII	*
20	1175	axe	Bray, R Thames	SU 9079	RM 23. 42	VII	*
21	1176	axe	Reading, Clapper Is	SU 721741	RM 83. 47	VII	
22	1177	axe	Reading, R Thames	SU 7274	RM 84. 47	VI	
230X	1178	axe	Benson, R Thames	SU 6191	ReadM 116.45	schlstose gabbro	
24	1179	axe	Tilehurst. R Thames	SU 6875	RM 107.45	I	
250X	1180	axe	Uffington	SU 3089	ReadM 187.45	dolerite	
260X	1181	axe	Didcot	SU 5290	ReadM 41.55	greenstone	
27	1182	axe	Bray, Monkey Is	SU 914790	RM 120.52	I	
280X	1183	axe. pt	Mapledurham, R Thames	SU 6777	ReadM 60.57	acid tuff	
290X	1184	mace	Henley-on-Thames, R Thames	SU 7782	ReadM 174.47	acid tuff	
30	1185	axe	Maidenhead. R Thames	SU 9081	NBM O.A..349	I	
31	1186	axe. fr	Reading, R Thames	SU 7274	NRM O.A.238	XVI	*
320X	1187	axe. pt	Sutton Courtenay	SU 488940	AshM 1929.785c	greenstone	*
33	1188	axe	Binfield	SU 8471	RM 78.47	IX	*

NO.	Ser	Implement	Locality	N.G.R.	Accession	Petrology	Note
34	1189	axe	Grazeley	SU 6966	RM 117.45	VI	
35	1190	axe	Wokingham	SU 8068	RM 76.47	I	
360X	1191	axe	Benson, R Thames	SU 6191	ReadM 75.47	VI	
370x	1192	axe	Wallingford	SU 6189	ReadM 79.47	I a	
38	1228	axe	Beenham	SU 603676	RM 170.62	greenstone	
39	1253	axe	Beenham	SU 604678	RM 145.63	VI (ns)	
40	1254	axe	Purley, R Thames	SU 669762	RM 220.63	VI (ns)	
410x	1287	axe	Buckland. R Thames	SP 314005	OCM 76 109 1	VI	
420X	1288	axe, pt	Blewbury	SU 545860	ReadM 276.63	greenstone	*
430x	1289	axe	Cholsey, R Thames	SU 6087	ReadM 1749.64	VII	
44	1297	a h. Ia/b	Caversham. Blenheim Rd	SU 711752	RM 73.63	XII	
45	1308	p-h	Sonning	SU 757754	PP	feldspar porphyry	
46	1309	axe	Wargrave, Frogmill Fm	su 811833	RM 186 65	serpentine	
470x	1317	axe, pt	Cholsey, R Thames	SU 605668	ReadM 180.65	VI	
46	1318	axe	Sulhamstead Abbots	SU 647680	RM 269.65	metamorphic shale	
49	1328	axe	Bray, R Thames	SU 9079	BM WG 76	I	
50	1329	b-a. V (s)	Lambourn, barrow at Stancombe	SU 3582?	BM 1879.12-9.1798	XII	
51	1399	axe	Bray, R Thames	SU 9079	BM WG 91	XVII	
52	1400	b-a. II	Cookham	SU 8985	BM 1905.10-31	XVIII	
53	1421	axe	Windsor, R Thames	SU 9676	GEW R.16	greenstone	
54	1422	axe	Windsor, R Thames	SU 9676	GEW R 15	greenstone	
55	1423	mace, cushion	Windsor, R Thames	SU 9676	GEW R.14	VI	
56	1424	p-h	Hurley, R Thames	SU 8283	PP	greenstone	
57 OX	1425	axe	Appleford	SU 522935	ReadM 96.70	VI	
58 OX	1491	axe	West Hanney	SU 401927	ReadM 195.66	VI	
59	1494	axe, fr	Compton, Woodrows Fm	SU 537784	PP	porphyritic rhyolite	
60 OX	1503	axe, fr	Blewbury	SU 545860	ReadM 134.49	greenstone	
61	1504	axe	Pangbourne	SU 634765	RM 80.47	ophitic dolerite	
62	1505	axe, perf	Waltham St Lawrence	SU 8276	RM 155 47	XVI	
63	1506	axe	Reading, R Thames	SU 7274	RM 77 47	IX	
64	1507	axe	Reading, Christchurch Gardens	SU 721721	RM 82 47	hornblende schist	
65	1508	axe, fr	Windsor, R Thames	SU 9676	RM 74.47	IV	
66	1509	axe, fr	Reading, Southcote	SU 697722	RM 90 48	siltstone	
67	1510	bracer. 83	Sonning, R Thames	SU 757756	RM 243.45	nephrite	
68	1596	axe	Basildon. 'Collin's Fm'	SU 59767	PP	tuff	
69	1611	axe	Basildon, Upper Basildon	SU 596766	PP	tuff	
70	1612	exe	Kingston Lisle, Rams Hill	SU 314864	RM	XX	
71	1726	axe	Sulhamstead Abbots	SU 642680	RM	altered gabbro	
72	1753	saddle quern	Burghfield. Knights Fm	SU 679702	RM	altered gabbro	

Cornwall

NO	Sel	Implement	Locality	NGR	Accession	Petrology	Note
1	80	axe	St Austell	SX 0152	Yeovil	II a	
2	146	axe, weathered or r-o ?	Camborne, Penponds	SW 6339	TM (ex CPLM)	XVI	
3	147	axe, fr	Camborne, Race Fm	SW 635408	TM (ex CPLM)	XVI	
4	148	axe	Camborne, Race Fm	SW 635408	TM (ex CPLM)	II a	
5	149	hone ?	Camborne, Weeth	SW 6440?	TM (ex CPLM)	XVI	
6	150	hone ?	Camborne, Carlean	SW 6440?	TM (ex CPLM)	XIX	
7	170	axe	St Levan. Rafta	SW 3823	WMHM	fibrolite	
6	180	cupped pebble	Newquay	SW 815610	PP	tourmaline granite (ns)	
9	181	pounder	Newquay, Trevelgue	SW 838635	PP	XIX	
10	182	pounder	Newquay, Treringley Round	SW 810605	PP	micaceous sandstone	
11	183	flake, rewd	Newquay, East Pentire	SW 7961	PP	spotted slate	
12	184	axe	Newquay	SW 815610	PP	greenstone	
13	185	b-a. I, pt	St Columb Minor, Trewollack	SW 850613	PP	sandstone	
14	234	axe, fr	Menheniot, Clicker Tor qy	SX 284614	PP	IV	
15	235	s-h adze, pt	St Cleer	SX 2468	PP	sandstone	
16	245	axe, pt	St Keverne, Goonhilly Moor	SW 735197	PP	I	
17	364	axe, fr	St Just-in-Penwith. Tregiffian Vean	SW 3628	PP	greenstone	
18	496	axe	Zennor, Trevowan	SW 4538?	ZWM	greenstone	
19	497	axe, fr	Zennor, Wicca	SW 4739	ZWM	greenstone	
20	498	axe, pt	Zennor	SW 4538	ZWM Z.827	greenstone	
21	499	axe or hone ?	Zennor, Bosulval	SW 4634	ZWM	glauconitic quartzite	
22	500	axe	Zennor	SW 4538	ZWM	greenstone	
23	501	p-h, pt	Launceston, The Rings	SX 2984	LM	sandstone	
24	502	axe ?	Launceston, The Rings	SX 2984	LM	ferruginous limestone	
25	503	hone ?	Launceston, The Rings	SX 2984	LM	slate	
26	504	misc artefact	Launceston	SX 3384	LM	sandstone	
27	505	axe, weathered or r-o ?	Linkinhorne, Darley	SX 2873?	LM	IV	
28	506	ball	Launceston, Castle Keep	SX 328845	LM	sandy shale	
29	507	axe ?, re-used ?	St Buryan, Tredinney	SW 3928	SBC	I	
30	508	axe, pt	St Buryan, Boscarn	SW 3927	SBC	I	
31	509	cupped pebble	St Buryan, Boscarn	SW 3927	SBC	I	
32	510	ph, pt	St Buryan, Tregiffian?	SW 4025?	PM	sandstone	
33	511	p-h, pt	St Buryan, Bosanketh	SW 3826	PM	altered sandstone	
34	512	axe ?	St Levan, Cribba Head	SW 4022	PM	altered micaceous shale	
35	513	hammer, grooved	Marazion	SW 5130	PM	altered micaceous shale	
36	514	a-h, Ia/b	Gulval, Eastern Green	SW 4831	PM	spotted slate	
37	515	a-h. IIb	Gwinear, Higher Roseworthy	SW 6139	PM	XII	
38	516	a-h, Ia, pt	Madron, Heamoor	SW 4531	PM	I	
39	517	axe	St Buryan, Boscean	SW 4025?	PM	I	
40	518	axe, pt	St Just-in-Penwith. Kelynack Mo-or	SW 3730	PM	greenstone	
41	519	axe, weathered or r-o ?	St Just-in-Penwith. Kelynack Mo-or	SW 3730	PM	I	
42	520	axe, weathered or r-o ?	St Just in Penwith. Kelynack Mo-or	SW 3730	PM	greenstone	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
43	521	axe, pt	Ludgvan, Castle-an-Dinas	SW 4835	PM	I	
44	522	pebble, utilised ?	Zennor	SW 4538	PM	spotted slate	
45	523	axe	Paul, Mousehole	SW 4626	PM	greenstone	
46	524	misc artefact	St Levan, Cribba Head	SW 4022	PM	phyllite	
47	525	axe ?	Zennor	SW 4538	PM	micaceous sandstone	
48	526	axe ?	St Ives	SW 5140	PP	spotted slate	
49	327	axe, weathered or r-o ?	St Ives	SW 5140	PP	spotted slate	
50	540	p-h	Zennor	SW 4538	PM	XIX	
51	558	rubber ?	St Just-in-Penwith, Nanquidno	SW 3629	PM	tourmaline (schorl)	
52	561	axe, pt	Semen, Sennen Cove	SW 3526	PP		
53	562	axe ?, re-used ?	St Buryan, Lamorna	SW 4424	PP	III	
54	564	pestle ?	Paul	SW 4627	PP	quartz porphyry	
55	565	axe, fr	Paul	SW 4627	PP	XVI	
56	566	pounder	Camelford, Rough Tor	SX 1480	PP	fine grained granite	
57	571	axe or chisel ?	St Mawgen, Carloggas	SW 8765	PP	XIX	
58	578	axe ?, fr	Paul, Castallack	SW 4525	PP	greenstone	
59	579	misc artefact ?	Sennen, Sennen Cove	SW 3526	PP	spotted slats	
60	580	hone ?	Camel ford, Rough Tor Moor	SX 1480	PP	sandstone	
61	581	axe	Mawnan	SW 7827	PP	tuff	
62	585	axe ?, fr	Manacan, Kestle	SW 7425	PP	greywacke	
63	586	pebble, beach	Cape, Cornwall	SW 3532	PP	greenstone	
64	588	axe	Lanlivery	SX 0859	PP	I	
65	592	axe	St Minver	SW 9677	PP	VI	
66	593	axe, weathered or r-o ?	St Levan, Roskestal	SW 3722	PP	I	
67	594	axe ?	St Breock	SW 9771	PP	altered killas	
68	596	axe ?, weathered or r-o ?	St Just-in-Penwith, Nanquidno	SW 3629	PP	altered killas	
69	600	axe, fr	Paul, Kerris Vean	SW 4427?	PP	I	
70	601	axe ?, fr	Paul, Kerris Vean	SW 4427?	PP	I	
71	602	axe ?, pt	Paul, Castallack	SW 4525	PP	altered killas	
72	603	misc artefact	Paul, Castallack	SW 4525	PP	altered killas	
73	604	axe ?	Wadebridge, Gonvena	SW 9872?	PP	dolerite	
74	605	axe ?	Semen, Mayon	SW 3525	PP	altered slate	
75	606	rubber ?	Camborne, Menadarva	SW 6440?	CPLM	micaceous sandstone	
76	607	rubber ?	Carborne, Roseworthy	SW 6139	CPLM	sandstone	
77	610	rubber ?	St Levan, Roskestal	SW 3722	PP	greenstone	
78	611	rubber ?	'Penwith,	-	PP	altered dolerite	
79	612	rubber ?	'Penwith,	-	PP	altered killas	
80	613	cupped pebble	St Levan, Porthcurno	SW 3622	PP	porphyritic microgranite	
81	614	cupped pebble	St Levan, Porthcurnod	SW 3622	PP	altered ophitic dolerite	
82	617	axe ?, fr	St Buryan, Boleigh	SW 4324	PP	spotted slate	
83	618	pestle ?	Paul, Kerris Vean	SW 4427?	PP	spotted slate	
84	632	pebble ?, fr	Sennen, The Greeb	SW 3424	PP	tourmalinised slate	
85	636	axe	St Agnes (Scilly), Gugh	SV 8908	PP	greenstone	
86	641	axe, weathered or r-o ?	Zennor	SW 4538	ZWM	greenstone	
87	642	s-h adze, pt	St Ives	SW 5140	SIOCS 034A	greenstone	
88	643	axe	St Ives	SW 5140	SIOCS 034	greenstone	
89	645	axe ?, fr	Paul, Trevelloe Fm	SW 4425	PP	greenstone	
90	646	misc, pendant	Paul, Roundago, Kerris	SW 4427	PP	banded sandstone (ns)	
91	658	axe, fr	Paul, Kerris Vean	SW 4427?	PP	spotted slate	
92	659	axe, pt	Zennor	SW 4538	PM F.C.H 1910	I	
93	660	rubber ?	Madron, Chysauster	SW 473350	PM	Spotted slate	
94	661	cupped pebble	St Levan, Cribba Head	SW 4022	PM	sandstone	
95	662	cupped pebble	St Levan, Cribba Head	SW 4022	PU C, 10/5	mica schist	
96	663	cupped pebble, pt	Penzance?	SW 4731?	PM	I a	
97	664	hone ?	St Buryan, Trevider	SW 4326	PP	spotted mica schist	
98	665	rubber ?	St Buryan, Brea Pa	SW 4025?	PP	tourmaline (schorl)	
99	666	axe ?, fr	St Buryan, Trevider	SW 4326	PP	XVI	
100	667	axe, pt	St Buryan, Trevider	SW 4326	PP		
101	672	axe	Helston, Gweek	SW 7026	CPLM	decomposed dolerite	
102	673	axe, fr	Helston, Gweek?	SW 7026?	CPLM	sandston	
103	674	axe	Carmon Valley (nr Falmouth)	SW 7841?	CPLM	non-ophitic dolerite	
104	675	axe	Camborne, Roseworthy	SW 6139	CPLM	greenstone	
105	676	axe ?, fr	Camborne, Roseworthy	SW 6139	CPLM	XIX	
106	677	axe, fr	Camborne, Tuckingmill	SW 6541	CPLM	III	
107	678	rubber ?	Camborne	SW 6440	CPLM	XIX	
108	679	axe, pt	Camborne	SW 6440	CPLM	decomposed dolerite	
109	680	axe ?	Carborne, Reskadinnick	SW 6341	CPLM	altered killas	
110	681	axe, pt	Illogan, Carn Brea	SW 686407	PP	I	
111	682	axe, weathered or r-o ?	Illogan, Carn Brea	SW 686407	PP	XVI	
112	683	axe, weathered or r-o ?	Helston, Culdrose aerodrome	SW 6725	PP	XVI	
113	685	axe	Carborne, Tuckingmill	SW 6541	CPLM	non-ophitic dolerite	
114	689	axe, weathered or r-o ?	Carborne, Rosewarne Hill	SW 6440?	CPLH	XVI	
115	690	axe, weathered or r-o ?	Camborne, 'North Cliffs'	SW 6443?	CPLM	XVI	
116	691	pestle ?, pt	Camborne, The Gilley	SW 6440?	CPLM	XIX	
117	692	axe ?, fr	Camborne	SW 6440	CPLM	metamorphosed slate	
118	693	rubber ?	Camborne	SW 6440	CPLM	calcareous sandstone	
119	694	pounder ?	Camborne, Race Fm	SW 635408	CPLM	fine grained quartzite	
120	695	axe ?, fr	Camborne, The Gilley	SW 6440?	CPLM	XVI	
121	696	axe ?, weathered or r-o ?	Camborne, The Gilley	SW 6440?	CPLM	XVI	
122	697	axe, pt, weathered or r-o ?	Camborne, The Gilley	SW 6440?	CPLM	XVI	
123	698	hone or pounder	Sancreed, Chapel Downs	SW 4229?	PP	quartz porphyry	
124	699	rubber ?	Sancreed, Chapel Downs	SW 4229?	PP	greenstone	
125	701	rubber ?	St Levan, Ardensaweth	SW 3723	PP	greenstone	
126	702	pounder ?	Madron, Bosulow Common	SW 4134	PP	greenstone	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
127	703	rubber ?	Sennen, Trevilly	SW 3524	PP	greenstone	
128	704	misc. socket stone	Towednack, Amalbrea	SW 4936	PP	greenstone	
129	705	rubber ?	Sennen, Trevassack Fm	SW 5537?	PP	jadeite	
130	706	rubber ?	Sennen, Trevescan	SW 3524	PP	altered killas	
131	710	axe, pt	St Levan, Treen	SW 3923	TM	VII	
132	713	axe, pt, weathered or r-o ?	Sancreed, Brane	SW 4028	PP	I a	
133	714	p-h	Madron, Bodrifty	SW 4534?	TM	micaceous sandstone	
134	715	hone ?	Camelford, Garrow	SX 1478	PP	sandstone	
135	716	axe	St Levan, Treen	SW 3923	TW	VII	
136	718	axe, fr	Camborne, Godrevy Headland	SW 5843	PP	I	
137	721	pestle ?	Paul, Kemyel	SW 4625	PP	altered slate	
138	722	axe	St Michael Penkevil, Fentongoll-an	SW 8643	TM 110/1923	greenstone	
139	723	axe ?, pt	St Just-in Penwith, Bostraze Mo-	SW 3831	TM	greenstone	
140	724	pestle ?	or St Levan, Chigwidden	SW 3722?	TM	quartzite	
141	725	axe	Zennor, Giant's Grave	SW 4538?	TM	gabbro	
142	726	axe	Grampound Road	SW 9150	TM	XVI	
143	727	axe	St Blazey, Cornhill Fm	SX 0654	TM	XVI	
144	728	axe	St Levan, Porthcurno	SW 3822	PP	greenstone	
145	731	axe	Wendron, Halwin	SW 6933	TM 2/1909	I a	
146	732	axe	St Issey	SW 9271	TM 65/1920	greenstone	
147	733	axe	Gwinear, Trungle Fm	SW 5937?	TM 1/1940	sands tone	
148	734	axe	St Columb Minor, Carnanton aero-drome	SW 8674	TM 36/1944	I	
149	735	axe ?, pt	Cury, Bochym	SW 6820	TM 65/1944	XIX	
150	736	axe	St Veep, Highgate	SW 1555	TM	IV	
151	737	axe, weathered or r-o ?	St Just-in-Penwith, Tregeseal	SW 3731	TM	I	
152	738	axe, weathered or r-o ?	St Just-in-Penwith, Tregeseal	SW 3731	TM	I a	
153	739	axe, pt	Sennen, Gribba	SW 3525?	TM	greenstone	
154	740	axe, pt	St Levan, Trebehor	SW 3724	TM	I	
155	741	axe ?, reused ?	Lelant, Trink	SW 5137	TM	XIX	
156	744	hone ?	St Ives, Pelican Hill	SW 5140?	PP	XIX	
157	751	axe, pt, weathered or r-o ?	St Ives, Carbis Bay	SW 5339	PP	I	
158	753	rubber, fr	Madron, Bodrifty	SW 4534?	PP	coarse sandstone	
159	754	axe	St Levan, Treen	SW 3923	TM	greenstone	
160	755	axe	Towednack, Bussow	SW 4938	TM	XVII	
161	756	p-h	St Levan, Chigwidden	SW 3722?	TM	porphyritic microgranite	
162	757	axe	Sancreed, Trannack	SW 4130	TM	greenstone	
163	758	s-h adze, pt	St Levan, Roskestal W Cliff	SW 3622?	TM	hornblende schist	
164	759	axe	St Just-In-Penwith, Pendeen	SW 3834	TM	feldspathic tuff	
165	760	axe	Millbrook, Venton	SX 4252?	TM	spotted slate	
166	761	axe, pt, weathered or r-o ?	Illogan, Carn Brea	SW 686407	TM	I	
167	762	axe, pt	Illogan, Carn Brea	SW 686407	TM	XVI	
168	703	axe, pt	Illogan, Carn Brea	SW 686407	TM	XVI	
169	764	axe, weathered or r-o ?	Zennor, Pennance	SW 4437	TM	XVI	
170	765	axe	Looe, East Looe	SX 2553	TM	altered mudstone	
171	774	hone ?	St Levan, Pedn-men-an-mere	SW 3821	TM 5/1916/97	XIX	
172	775	axe, fr	Illogan, Carn Brea	SW 686407	TM	altered sandstone	
173	778	axe, pt	Illogan, Carn Brea	SW 686407	TM	XVI	
174	777	axe, fr	Illogan, Carn Brea	SW 686407	TM	XVI	
175	778	axe, fr	Illogan, Carn Brea	SW 686407	TM	XVI	
176	779	axe, fr	Illogan, Cam Brea	SW 686407	TM	XVII	
177	780	axe, fr	Illogan, Cam Brea	SW 686407	TM	XVI	
178	781	axe	Illogan, Carn Brea	SW 686407	TM	XVI	
179		b-a, III	Probus, Polperrow Fm	SW 8547	TM 53/25	I	
180	783	axe, weathered or r-o ?	St Levan, Roskestal	SW 3722	TM	I	
181	784	pounder	St Levan, Roskestal	SW 3722	TM	I	
182	785	pounder	St Leven, Trewey	SW 3822?	TM	I	
183	786	axe	St Levan, Bosistow	SW 3623	TM	quartz porphyry	
184	787	axe, pt	St Levan, Trendrenan	SW 3823	TM	altered sedimentary rock	
185	788	mace, ovoid, pt	St Levan, Penvounder	SW 3822?	TM	greenstone	
186	789	a-h, IIb	St Just-In-Penwith, Gurland Fm	SW 3628	TM 76/1925	XII	
187	791	b-a, I	Pelynt, from a barrow	SX 200545	TM	ophitic dolerite	
188	792	b-a, fr	Kea, Penwethers Moor	SW 8043	TM	greenstone	
189	793	a-h, Ia/b	St Juliet, Tregurra Marsh	SX 1291?	TM 132/1925	sandstone	
190	794	s h adze, pt	St Merryn, Trevoze golf course	SW 8675	TM	sandstone	
191	795	p-h, pt	Godolphin, Pengwedna	SW 6231	TM 72/1926	sheared sandstone	
192	796	p-h, pt	Godolphin, Pengwedna	SW 6231	TM 71/1926	quartzite	
193	797	p-h	Callington, nr Cadsonbury	SX 3467	TM	greenstone	
194	798	p-h, pt	Powey, Castle Dore	SX 103548	TM	fine grained granite	
195	799	rubber ?, grooved	St Ives, Hellesvean	SW 505400	TM	tourmaline (schorl)	
196	800	hammer, grooved	Zennor, Chickembra	SW 4538?	TM	granite	
197	801	hammer, grooved	St Ives, Hellesvean	SW 505400	TM	granite	
198	802	cupped pebble, pt	St Buryen, Trevedran	SW 4123	TM	coarse quartzite	
199	803	cupped pebble, pt	Camborne, Rosewarne	SW 6440	TM	XIX	
200	804	cupped pebble	Zennor, Treen	SW 4337	TM	granite	
201	805	misc. socket stone	Lanreath, Treheir	SX 1756?	TM	quartz porphyry	
202	806	p-h, fr	Lanreath, Treheir	SX 1756?	TM	tourmaline granite	
203	807	hammer, grooved	Lanreath, Treheir	SX 1756?	TM	tourmaline granite	
204	813	rubber ?	Camborne, Callean Pm	SW 6042	PP	XIX	
205	814	rubber ?	Camborne, Callean Pm	SW 6042	PP	XIX	
206	816	b-a, V	St Merryn, barrow at Harlyn Bay	SW 8776	not known	quartzose conglomerate (ns)	
207	823	axe	Camborne, Camborne Beacon	SW 6539	TM	greenstone	
208	824	pebble ?, weathered	Gwithian, Godrevy barrow	SW 5943	PP	I	
209	825	rubber ?	Madron, Men Scryfys Field	SW 4235	PP	I	
210	827	rubber ?	St Enoder, The Round	SW 897566	TM	quartzite	

No.	Ser.	Implement	Locality	N. G. R.	Accession	Petrology
211	839	axe, pt	Penwith?	—	pp	basalt
212	840	axe	penwith?	—	pp	decomposed olivine basalt
213	842	p-h	St Columb Major, Talskiddy	SW 9165	TM	decomposed dolerite
214	843	mace, ovoid	Breaage	SW 6128	TM	greenstone
215	846	axe, weathered or r-o ?	Veryan, Tretheake Fm	SW 9341	TM	I
216	853	b-a/ O. [t perf	Cury, Burnow	SW 6721?	TM 9/1919/14	XVII
217	854	b-a, IV	Sithney, Ventonvedna	SW 6426	TM 9/1919/15	sltered slate
218	855	b-a, III	Sithney, Ventonvedna	SW 6426	TM 9/1919/16	I
219	891	axe	St Just-in-Penwith, St Just Aer-odrome	SW 3729	pp	greenstone
220	893	s-h adze	Mawgan Porth or St Eval	SW 86	pp	greenstone
221	895	s-h adze	Davidstow, Wilsey Down	SX 188885	TM	sandstone
222	904	axe	St Mary's (Scilly), Peninnis ad	SV 9109	PM	altered slate
223	905	a-h, Ia, pt perf	Luxulyan, Polgoda Fm	SX 0558?	PM	tourmaline granite
224	912	pestle ?	St Buryan, Tredinney	SW 3928	pp	greenstone
225	913	ball	St Buryan	SW 4025	pp	greenstone
226	928	miner's tool	Menheniot, Bethany	SX 2862?	TM	greenstone
227	960	axe	Grade-Ruan, Goonhilly Downs	SW 726194	pp	sandstone
228	972	mould, socketed axe	Michaelstow, Helsbury gy	SX 0879	TM	chlorite schist
229	973	mould, socketed axe	Michaelstow, Helsbury gy	SX 0879	TM	talc chlorite schist
230	974	axe	St Agnes, Goverley	SW 7250?	pp	greenstone
231	976	axe	Forrabury & Minster, Vendown	SX 1088	PP	greenstone
232	980	axe	Hayle	SW 5637	pp	greenstone
233	1042	axe	Michaelslow, Helsbury gy	SX 0879	pp	greenstone
234	1053	axe, pt	Newquay, Glondorgal barrow	SW 82462?	PP	rhyolite
235	1069	p-h, pt	North Hill, Bearah	SX 289744	TM	quartzite (ns)
236	1087	hone ?	Kenwyn, Carvinack barrow	SW 7748?	pp	sandstone
237	1088	cupped pebble	Kenwyn, Carvinack barrow	SW 7748?	pp	sandstone
238	1089	hone	Callington, Hingston Down	SX 3871	pp	sandstone
239	1090	hone	Callington, Hingston Down	SX 3871	pp	sandstone (ns)
240	1098	misc, spindle whorl ?	Noth Hill, Bearah	SX 289744	pp	greenstone
241	1099	misc, spindle whorl ?	North Hill, Bearah	SX 289744	pp	greenstone (ns)
242	1136	pebble	Otterham, in a barrow	SX 176942	pp	micaceous sandstone
243	1137	cupped pebble	Otterham, in a barrow	SX 176942	pp	shale
244	1138	axe, pt	Menheniot, Clicker Tor gy	SX 284614	pp	pp
245	1140	axe	St Just-in-Penwith, St Just aer-odrome	SW 3729	pp	XVI
246	1152	axe	St Agnes	SW 715474	TM	XVI
247	1153	cupped pebble	St Merryn	SW 585718	TM	sandstone
248	1154	p-h	St Merryn	SW 858718	TM	greYWacke
249	1195	axe, fr	Gwithina, Site XV	SW 591423	pp	I a
250	1196	a-h or b-a, fr	Gwithian, Site XV	SW 591423	pp	XII
251	1197	misc artefact	Gwithian, Site IX	SW 591423	pp	unidentified (ns)
252	1204	misc, ard point ?	Gwithian, Site X	SW 591423	pp	greenstone
253	1205	axe	Illogan, Carn Brea	SW 686407	CPLM	tuff
254	1206	axe	Illogan, Carn Brea	SW 686407	CPLM	XVI
255	1207	axe, fr	Illogan, Carn Brea	SW 686407	CPLM	SVI
256	1267	axe	Polruan, Polruan Hill	SX 128509	pp	coarse sandy tuff
257	1272	p-h, pt	St Mary's (Scilly), Normandy Fm	SV 924111	pp	impure micaceous sandstone
258	1273	p-h, pt	St Mary's (Scilly), Normandy Fm	SV 924111	pp	impure micaceous sandstone
259	1274	p-h, fr	St Mary's (Scilly), Normandy Fm	SV 924111	pp	impure sandstone
260	1275	cped, pebble	St Mary's (Scilly), Normandy Fm	SV 924111	pp	impure sandstone
261	1276	b-a, blunt, pt	St Mary's (Scilly), Normandy Fm	SV 924111	pp	tourmaline granite
262	1277	p-h, pt	St Mary's (Scilly), Normandy Fm	SV 924111	pp	quartzite
263	1278	pounder	Eastern Isles (Scilly), Nornour	SV 945148	pp	micaceous sandstone
264	1279	axe, pt	Constantine, Bonallack	SW 7126	TM	greenstone
265	1281	cupped pebble	Newquay	SW 829621	pp	sandstone
266	1305	axe	Wendrn, nr Nine Maidens	SW 683366	lost (ex PCMAG)	fibrolite
267	1321	p-h	Lanivet, Laninval	SX 051658	Bodmin	greenstone
268	1323	axe	Eglosayle, Burniere Fm	SW 989736	pp	IV
269	1324	pounder	Eastern Isles (Scilly), Nornour	SV 945148	pp	greenstone
270	1325	disc, perf	Eastern Isles (Scilly), Nornour	SV 945148	pp	quartz pophyry
271	1326	axe	Kenwyn, Allet	SW 795485	TM	IV
272	1330	axe	Newquay	SW 8262	B, 1933, 4-6, 85	jadeite
273	1331	axe	Penzance (nr)	SW 4730?	BM C C. 9240	metamorphosed sedimentary rock
274	1332	axe	(Penzance) (nor)	SW 4730?	BM C, C. 9241	altered slate
275	1338	hammer, grooved	Eastern Isles (Scilly), Nornour	SV 945148	pp	medium grained granite
276	1339	disc, perf	Eastern Isles (Scilly), Nornour	SV 945148	pp	lamprhyre
277	1340	p-h, pt	Eastern Isles (Scilly), Nornour	SV 945148	pp	lamprhyre
278	1341	cupped pebble	Eastern Isles (Scilly), Nornour	SV +56259	pp	lamprhyre
279	1342	disc	Eastern Isles (Scilly), Nornour	SV 945148	pp	pumice
280	1343	quern, fr	Eastern Isles (Scilly), Nornour	SV 945148	pp	fine grained granite
281	1344	ball	Eastern Isles (Scilly), Nornour	SV 945148	pp	I
282	1345	ball	Eastern Isles (Scilly), Nornour	SV 945148	pp	micaceous sandstone
283	1346	misc, basin, fr	Eastern Isles (Scilly), Nornour	SV 945148	pp	micaceous sandstone
284	1349	axe, fr	Gerrans, Roseland	SW 875341	pp	greenstone
285	1353	pounder ?	St Just-in-Penwith	SW 369289	pp	greenstone
286	1354	pounder ?	St Just-in-Penwith	SW 369289	pp	greenstone
287	1371	axe, pt	At Columb Minor, Rialton Moor	SW 850619	TM	sheared greenstone
288	1372	axe, pt	St Columb Minor	SW 830624	pp	greYWacke
289	1374	axe	Bodmin?	SX 0767?	Bodmin	quartz dolerite
290	1378	axe, pt	Sancreed, Carn Euny	SW 403288	CESM	greenstone
291	1383	axe	St Keverene, Tregaminion	SW 795224	Helston	greenstone
292	1398	axe, fr	St Kew, nr Trevinnick	SX 008787	TM	micaceous sandstone
293	1403	disc	Morwenstow, Wooley barrow	SS 262166	pp	sandstone
294	1408	rubber	Gwithian, Higer Pencobben	SW 593427	pp	greYWacke
295	1409	axe, fr	Cubert, The Kelstes	SW 768601	pp	greenstone
296	1410	pestle ?	Michaelstow, Helsbury gy	SX 089792	p	greenstone
297	1414	axe	St Breward, Stannon Down	SX 132802	TM	greenstone
298	1415	axe, pt	St Breward, Stannon Down	SX 132802	TM	greenstone

No.	Ser.	Implement	Locality	N. G. R.	Accession	Petrology	Note
299	1437	axe, fr	Illogan, Carn Brea	SW 686407	TM	greenstone	
300	1441	axe ?, fr	Illogan, Carn Brea	SW 686407	TM	greenstone	
301	1442	axe, fr	Illogan, Carn Brea	SW 686407	TM	micaceous sandstone	
302	1443	axe, fr	Illogan, Carn Brea	SW 686407	TM	greenstone	
303	1444	rock	Illogan, Carn Brea	SW 686407	TM	greenstone	
304	1445	rock	Illogan, Carn Brea	SW 686407	TM	greenstone	
305	1446	axe ?, weathered or r-o ?	Madron, Lanyon	SW 422337	pp	I	
306	1474	pounder	Gwithian, Site I	SW 591423	pp	greywacke	
307	1475	axe, fr	Gwithian, Site X	SW 591423	pp	greenstone	
308	1476	pounder	Gwithian, Site X	SW 591423	pp	epidiorite	
309	1477	pestle ?	Gwithian, Site IX	SW 591423	pp	greywacke	
310	1478	ball	St Buryan	SW 4025	pp	I	
311	1479	axe ?, fr	St Buryan	SW 4025	pp	altered gabbro	
312	1480	pounder	St Buryan	SW 4025	pp	greenstone	
313	1495	axe	St Martin-in-Meneage, Trezise	SW 7222?	TM	jadeite (ns)	
314	1496	axe	Croft gy 'Cornwall'	-	NMA AG 1	jadeite (ns)	
315	1524	axe	Illogan, Carn Brea?	SW 686407	TM 71/1	amphibolite or greenstone	
316	1525	axe	Breage, Trescowe, Oak Tree Fm	SW 589323	TM 71/2	mica amphibolite or greenstone	
317	1526	axe	Looe, East Looe	SX 2553	TM 71/3	epidiorite	
318	1527	axe	St Ervan, Efflins	SW 8970	TM 71/4	I	
319	1528	axe	Golant, Penquite	SX 117557	TM 71/7	greenstone	
320	1529	axe, fr	St Ives, Hellesvean	SW 505400	TM 71/18	junction of Group I and fine g grained greenstone	
321	1530	miner's tools, pt	St Ives, Hellesvean	SW 5140	TM 71/11	junction of decomposed dolerite and quartzite	
322	1531	axe, pt	St Ives?	SW 5140?	TM 71/10	I	
323	1532	axe	Prpbis. :pw,am Rd	SW 8948	TM 11/71	dolerite or greenstone	
324	1533	axe	Probus, Lowman Rd	SW 8948	TM 16/71	dolerite or greenstone	
325	1534	axe	'Cornwall'	-	TM 20/71	I	
326	1535	axe, pt	Lanlivery, Helman Tor	SX 068607	TM 71/6	I	
327	1536	mould, rapier	Lanlivery, Helman Tor	SX 068607	TM 71/5	epidiorite	
328	1537	cupped rock	Lanlivery, Crift Fm	SX 065602	TM 71/8	XVI	
329	1538	mace, ovoid, pt	Altarnun, Bolventor?	SX 1876	TM 71/9	pure quartzite	
330	1539	axe	West Cornwall?	-	TM 71/15	olivine dolerite	
331	1540	axe	West Cornwall?	-	TM 71/13	altered dolerite or greenstone	
332	1541	axe	West Cornwall?	-	TM 71/14	greenstone	
333	1542	a-h, lb	Gwennap	SW 7440	EM A 1540	weathered quartz dolerite	
334	1559	axe	Illogan, Carn Brea	SW 686407	TM	XVI	
335	1560	axe, fr	Illogan, Carn Brea	SW 686407	TM	XVI	
336	1561	axe, fr	Illogan, Carn Brea	SW 686407	TM	XVI	
337	1562	axe, fr	Illogan, Carn Brea	SW 686407	TM	sheared greenstone	
338	1563	axe, fr	Illogan, Carn Brea	SW 686407	TM	XVI	
339	1564	axe, fr	Illogan, Carn Brea	SW 686407	TM	XVI	
340	1565	axe, fr	Illogan, Carn Brea	SW 686407	TM	XVI	
341	1566	axe, fr	Illogan, Carn Brea	SW 686407	TM	XVI	
342	1567	flake	Illogan, Carn Brea	SW 686407	TM	greywacke	
343	1568	axe, fr	Illogan, Carn Brea	SW 686407	TM	greenstone	
344	1569	axe, fr	Illogan, Carn Brea	SW 686407	TM	greenstone	
345	1570	axe ?, fr	Illogan, Carn Brea	SW 686407	TM	sheared greenstone	
346	1571	misc, axe polisher	Illogan, Carn Brea	SW 686407	TM	XVI	
347	1572	misc, axe polisher	Illogan, Carn Brea	SW 686407	TM	quartz porphyry	
348	1573	pebble, utilised	Illogan, Carn Brea	SW 686407	TM	Impure sandstone	
349	1574	pebble, pt	Illogan, Carn Brea	SW 686407	TM	Impure sandstone	
350	1575	pebble, pt	Illogan, Carn Brea	SW 686407	TM	Impure sandstone	
351	1576	pebble, utilised	Illogan, Carn Brea	SW 686407	TM	greywacke	
352	1577	rock	Illogan, Carn Brea	SW 686407	TM	epidiorite	
353	1578	rock	Illogan, Carn Brea	SW 686407	TM	sandstone	
354	1579	pebble	Illogan, Carn Brea	SW 686407	TM	epidiorite	
355	1580	axe	Gerrans, Porthscatho	SW 8735	TM	VI	
356	1595		Colan	SW 8663	pp	I	
357	1626	axe	Illogan, Carn Brea	SW 686407	TM	IV	*
358	1627	axe, pt	Illogan, Carn Brea	SW 686407	TM	I	*
359	1628	pebble	Illogan, Carn Brea	SW 686407	TM	greywacke	*
360	1629	axe, pt	Illogan, Carn Brea	SW 686407	TM	XVII	*
361	1630	axe, fr	Illogan, Carn Brea	SW 686407	TM	greenstone	*
362	1631	rubber, fr	Illogan, Carn Brea	SW 686407	TM	tuff	*
363	1632	axe	Illogan, Carn Brea	SW 686407	TM	I	*
364	1633	axe ?, fr	Illogan, Carn Brea	SW 686407	TM	greenstone	*
365	1634	pebble	Illogan, Carn Brea	SW 686407	TM	greenstone	*
366	1635	axe, pt	Illogan, Carn Brea	SW 686407	TM	greenstone	*
367	1636	misc artefact, pt	Illogan, Carn Brea	SW 686407	TM	tuff	*
368	1637	axe, fr	Illogan, Carn Brea	SW 686407	TM	greenstone	*
369	1638	axe, fr	Illogan, Carn Brea	SW 686407	TM	tuff	*
370	1639	axe, fr	Illogan, Carn Brea	SW 686407	TM	greenstone	*
371	1640	axe, pt	Illogan, Carn Brea	SW 686407	TM	IV	*
372	1641	axe ?, fr	Illogan, Carn Brea	SW 686407	TM	XVI	*
373	1643	a-h, IIb	Gulval, Boscreege Fm	SW 465341	pp	hornblende picrite	
374	1653	axe	Grade-Ruan, Kennack Sands	SW 734164	TM	greenstone	
375	1662	rock	Illogan, Carn Brea	SW 686407	TM	greenstone	*
376	1663	axe, flake	Illogan, Carn Brea	SW 686407	TM	greenstone	*
377	1664	rock	Illogan, Carn Brea	SW 686407	TM	greenstone	*
378	1665	axe, fr	Illogan, Carn Brea	SW 686407	TM	greenstone	*
379	1666	rock	Illogan, Carn Brea	SW 686407	TM	greenstone	*
380	1667	misc artefact, fr	Illogan, Carn Brea	SW 686407	TM	greenstone	*
381	1668	rock	Illogan, Carn Brea	SW 686407	TM	greenstone	*
382	1669	rock	Illogan, Carn Brea	SW 686407	TM	diorite	*
383	1670	rock	Illogan, Carn Brea	SW 686407	TM	altered killas	*
384	1671	rock	Illogan, Carn Brea	SW 686407	TM	greenstone	*
385	1672	axe, flake	Illogan, Carn Brea	SW 686407	TM	greenstone	*
386	1692	axe	Sennen, Mayon Fm	SW 358258	pp	I	
387	1712	axe	Sancreed, The High Barn	SW 402297	pp	I	
388	1720	axe	Luxulyan, Atwell	SX 053583	pp	IV	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
389	1721	axe, pt	Luxulyan, Bodiggo	SX 047585	pp	greenstone	
390	1722	p-h, pt	Luxulyan, Prideaux Camp	SX 059557	pp	greenstone	
391	1727	axe	Redruth, Cardrew Fm (site of)	SW 705425	TM 9/1978/1	XVI	
392	1728	axe	Redruth, Cardrew Fm (site of)	SW 705425	TM	altered gabbro	
393	1729	axe	Breage, Trescowe, Oak Tree Fm	SW 589323	TM	greenstone	
394	1730	axe	St Just-in-Penwith, Kerrow Fm	SW 383277	TM	VI	*
395	1731	axe, fr	St Ives, Penbeagle	SW 5038	TM	altered epidiorite	
396	1732	axe	Le lant?, Ninnis	SW 5135?	TM	dolerite	
397	1733	axe	Le lant?, Ninnis	SW 5135?	TM	andesite	
398	1734	axe	Towednack, Pender leath	SW 495375	TM	I	
399	1735	axe, pt	Towednack, Coldharbour	SW 4937	TM	XIX	
400	1736	axe, fr	St Buryan, Boscawen-un	SW 4127	TM	XVI	
401	1737	axe, fr	St Buryan, Leha	SW 406275	TM	I	
402	1738	rubber ?	St Buryan, Churchtown?	SW 4025?	TM	sandstone	
403	1793	axe, fr	St Levan, Treen	SW 3923	TM 4/1972/3	greenstone	
404	1740	axe, pt, rewkd	St Levan, Treen	SW 3923	TM 4/1972/2	VI	
405	1741	axe, fr	St Levan, Treen	SW 3923	TM 4/1972/1	Text	
406	1742	hone, pt	St Levan; Treen	SW 3923	TM 4/1972/4	sandstone	
407	1743	axe	Pelynt, nr Kilminorth	SX 245541	pp	tuff	
408	1748	axe, fr	St Keverne, Crousa Downs	SW 7720	TM	altered gabbro	
409	1765	axe	Withiel, nr Higher Grogley	SX 006666	pp	I	
410	1771	axe, fr	Illogan, Carn Brea	SW 686407	TM	XVI	*
411	1772	axe, fr	Illogan, Carn Brea	SW 686407	TM	greenstone	*
412	1805	axe	Liskeard	SX 247633	pp	dolerite	
413	1806	axe, pt	Linkinhorne, Rillaton	SX 297738	pp	greenstone	
414	1807	axe, weathered or r-o ?	St Levan, nr Bottoms	SW 389241	pp	VII	*
415	1816	axe, pt	Stihians, in reservoir	SW 709371	pp	IV	
416	1821	axe	Paul, Mousehole	SW 467268	pp	near IV	
417	1822	axe, pt	St Levan, nr Bottoms	SW 386241	pp	near I	
418	1823	s-h adze, pt	St Martin's, Scilly, English Is	SV 938154	TM	decomposed dolerite	

Devon

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1	88	mace, ovoid C, pt	nr Sidmouth	SY 1287?	EM	XIII	
2	89	axe	Ottertton	SY 0885	EM	II	
3	197	axe, pt	Payhembury, Hembury Fort	ST 113030	EM	IV a	
4	198	axe	Payhembury, Hembury Fort	ST 113030	EM	IV a	
5	199	axe, pt	Payhembury, Hembury Fort	ST 113030	EM	IV a	
6	200	axe, fr	Payhembury, Hembury Fort	ST 113030	EM	greenstone	
7	201	axe, fr	Payhembury, Hembury Fort	ST 113030	EM	quartz tourmaline	
8	202	axe	Payhembury, Hembury Fort	ST 113030	EM	II a	
9	203	axe, pt	Payhembury, Hembury Fort	ST 113030	EM 122/1930-200	greenstone	
10	204	axe, fr	Payhembury, Hembury Fort	ST 113030	EM	unidentified (ns)	
11	205	axe, fr	Payhembury, Hembury Fort	ST 113030	EM	IV a	
12	206	axe, fr	Payhembury, Hembury Fort	ST 113030	EM	greenstone	
13	207	axe	Payhembury, Hembury Fort	ST 113030	EM 119/1930?	XVII	
14	208	axe	Ylverton, Buckland Abbey	SX 4866	EM 45/1927	XVII	
15	209	axe	N Tawton, South Week Fm	SS 6501	EM 40/1917	I	
16	210	axe	Silvertown	SS 9502	EM 300/1911	XVI	
17	211	axe	Seaton	SY 2490	EM 91/1932/36	greenstone	
18	247	axe	Torbryan, Torbryan Caves	SX 8266	BM(NH) E.1019	altered slate ?	
19	248	axe	Torbryan, Torbryan Caves	SX 8266	BM(NH) E.243	XVI	
20	528	axe	Clovelly, Sowden Fm	SS 295233	NDA	I a	
21	532	axe, pt	Clovelly, Sowden Fm	SS 295233	NDA	greenstone	
22	542	axe	Woodbury, Woodbury Common	SY 0386	EM	XIX	
23	574	a-h, pt	Torquay, Lincombe Hill	SX 947635	TNHSM	dolerite	
24	575	axe	Torquay, 'Chelston Tower'	SX 916638	TNHSM	greenstone	
25	576	axe, pt	Torquay, 'Chelston Tower'	SX 916638	TNHSM	IV	
26	577	axe	Torquay, 'Chelston Tower'	SX 916638	TNHSM	IV	
27	599	axe, fr	Kerswells, Dainton Common	SX 8666?	TNHSM?	IV	
27a	615	a-h, lb	Ottertton	SY 0885	pp	XII	
28	651	axe, fr	'Haldon', nr Lawrence Castle	SX 8786	EM	dolerite	
29	668	axe	Harberton, Hazard Hill	SX 755594	EM	XVI	
30	669	axe, fr	Harberton, Hazard Hill	SX 755594	EM	XVII	
31	670	axe	North Bovey, East Combe Fm	SX 7383?	p	I	
32	684	axe, fr	Tipton St John	SY 0991	EM 8/1950.2	greenstone	
33	700	axe	Clovelly, Clovelly Dykes	SS 312235	pp	IV	
34	720	axe	South Tawton, Harper Fm	SX 672927	EM	greenstone	
35	729	disc, perf	Sidmouth, Harpford Wood	SY 1090	pp	glauconitic quartzite	
36	730	disc, perf	Sidmouth, Harpford Wood	SY 1090	pp	glauconitic quartzite	
37	766	axe	Dawlish?	SX 9676?	TNHSM	I	
38	767	axe, pt	Harberton, Hazard Hill	SX 755594	pp	IV	
39	768	axe	Harberton, Hazard Hill	SX 755594	EM	ophitic dolerite	
40	769	axe, fr	Harberton, Hazard Hill	SX 755594	EM	greenstone	
41	770	axe, fr	Harberton, Hazard Hill	SX 755594	EM	ophitic dolerite	
42	771	axe, fr	Harberton, Hazard Hill	SX 755594	EM	weathered dolerite	
43	772	axe	Harberton, Hazard Hill	SX 755594	EM	XVII	
44	790	a-h, lb	Okehampton	SX 5895	EM ex TM	greenstone	
45	811	scraper	Ashton, Beardon Hill	SX 852843	pp	radiolarian chert	
46	812	polisher ?	Harberton, Hazard Hill	SX 755594	EM	greenstone	
47	815	axe	South Tawton, East Week Fm	SX 6692	pp	IV	
48	819	axe ?	South Tawton, East Week Fm	SX 6692	pp	greenstone	
49	820	axe, fr	Totnes	SX 8060	pp	i	
50	828	axe	Harberton, Hazard Hill	SX 755594	Totnes	XVI	
51	841	rock	Lambert's Castle	SY 3799	pp	glauconitic sandstone ?	
52	861	axe, pt	Sidmouth, Slade House Fm	SY 1689	Sidmouth	spotted slate	
53	863	axe	South Tawton, Fire Stone Cross	SS 6693	pp	XVI	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
54	864	rubber ?	Sidmouth, Mutter's Moor	SY 1087	pp	glaucinitic limestone	
55	885	axe, pt	North Bovey, East Combe Fm	SX 7483?	pp	XVI	
56	896	axe	Sidmouth, Mutter's Moor	SY 1087	pp	radiolarian chert	
57	906	axe	Arlington	SS 6140	EM 1970/256	tuff	
58	909	axe	Bovey Tracey, Lower Down	SX 7978	TNHSM 909	nephrite	
59	920	axe	Lustleigh, Narramore Fm	SX 7584	pp	I	
60	929	axe	Stockland, Millhayes	ST 2303	pp	dolerite	
61	930	axe	Stockland, Millhayes	ST 2303	pp	greenstone	
62	941	b a, III	Newton Abbot, nr Aller Vale qy	SX 8667?	TNHSM	rhyolite	
63	945	misc artefact, pt	Harberton, Hazard Hill	SX 755594	pp	altered slate	
64	1049	axe, fr	Harberton, Hazard Hill	SX 755594	pp	vocanic or metamorphic rock	
65	1051	a-h	Challacombe, Leeball Field	SS 685397	pp	greenstone	
66	1076	hone, medieval	Dean Prior, Dean Moor	SX 6765	pp	sandstone	
67	1077	none, medieval	Dean Prior, Dean Moor	SX 6765	pp	sandstone	
68	1094	axe, pt	Devon?	-	pp	tuff	
69	1119	axe	Plymouth, Cawsand Beach	SX 4350	pp	greenstone	
70	1127	axe	Torquay, Priory Rd	SX 9764?	TNHSM	tuff	
71	1128	axe	South Tawton, Week area	SX 6792	pp	greenstone	
72	1135	axe, pt	Plymouth, Thorn Park	SX 4755?	TNHSM	silicified tuff	
73	1139	axe, pt	Harberton, Hazard Hill	SX 755594	pp	ophitic dolerite	
74	1144	a-h, Ia/b ?	Bampton, Bampton Down	SS 9921	CM A. 2587	picrite (Trewen)	
75	1158	disc, perf	Milber Down hill-fort	SX 995+++	TNHSM	chalcedony	
76	1159	quern, fr	Stoke Gabriel	SX 8457	pp	quartz pophyry	
77	1160	quern, fr	Stoke Gabriel	SX 8457	pp	quartz pophyry	
78	1165	axe	Filleigh, Higher Beer	SS 6629	pp	IV a	
79	1173	axe, fr	Sidmouth, High Peak	SY 103859	EM	greenstone	
80	1200	axe	Tavistock, Ford St	SX 477741	PCMAG 1946.40	metamorphosed sedimentary rock	
81	1201	axe, fr	Sidmouth, High Peak	SY 103859	EM	jadeite	
82	1202	axe, fr	Sidmouth, High Peak	SY 103859	EM	IV	
83	1215	axe, pt	Plympton, Clifton Close	SX 543571	pp	IV	
84	1236	axe	Tiverton, Withleigh	SS 909124	Tiverton	quartzite	
85	1237	p-h	Tiverton	SS 9512	Tiverton	sandstone	
86	1238	p-h	Tiverton, Hillersdon	SS 9512?	Tiverton	sandstone	
87	1239	axe, pt	Buckfastleigh, Higher Kiln qy	SX 744665	PCRCM	XVI	
88	1246	axe	Broadclyst	SX 991952	EM	greenstone	
89	1252	s-h adze	Charles, West Blakerwell	SS 688329	pp	micaceous sandstone	
90	1262	p-h	North Molton	SS 717301	SCM 51.A.10	quartzite (ns)	
91	1268	axe	Peter Tavy, Wedlake Fm	SX 538774	PCMAG 1964.14.1	thermally altered sediment	
92	1269	axe, fr	Sidmouth, High Peak	SY 103859	EM	greenstone	
93	1291	rubber ?	Plymouth, Laura Bridge	SX 501543	TNHSM A.312	quartzite	
94	1292	pounder	Manaton, Leighton Tor	SX 7579?	TNHSM A.308	quartzite	
95	1294	p-h	Brixham, Windmill Hill	SX 9256?	TNHSM A.309	mudstone	
96	1295	axe	Torquay, nr Hope's Nose	SX 9463	TNHSM A.306	sheared greenstone	
97	1302	axe	Plymstock, Mount Batten	SX 489532	PCMAG	VI (ns)	
98	1303	axe	Plymstock, Horn Lane	SX 516530	lost (ex PCMAG)	greenstone	
99	1304	axe	Plymouth, Ernsett	SX 443602	lost (ex PCMAG)	thermally altered greenstone	
100	1306	axe	Brixham, Ashole Cavern	SX 9256?	BRIXHAM	XVI	
101	1312	axe	Uffculme, Smithincott	ST 065116	EM 1964/10	greenstone	
102	1313	axe	Aylesbeare, Rill Fm	SY 031924	EM 1964/130	greenstone	
103	1314	axe	Lifton	SX 410835	EM 1965/42	IV	
104	1319	axe	Chulmleigh, E Molland Fm	SS 746164	pp	greenstone	
105	1333	axe	Branscombe, nr church	SY 1988?	BM 1953.12-4.1	VIII	
106	1365	axe, pt	Tavistock, Parswell Fm	SX 463730	pp	IV	
107	1366	hammer, light	Tavistock, Parswell Fm	SX 463730	pp	quartzite	
108	1367	misc, spindle whorl	Tavistock, Parswell Fm	SX 463730	pp	weathered dolerite	
109	1368	axe	Tavistock, Cleave Fm	SX 486751	pp	ironstone	
110	1369	axe	Tavistock, Cleave Fm	SX 486751	pp	greenstone	
111	1370	miner's tool	Tavistock, Cleave Fm	SX 462739	pp	decomposed dolerite	
112	1420	rock	Stoke Gabriel, Penn qy	SX 844574	-	greenstone	
113	1449	axe, pt	Lustleigh, North Harton Fm	SX 780820	EM 75/1970	greenstone	
114	1450	axe	Stoke Canon, R Culm	SX 942980	EM 258/1968	chert	
115	1481	axe	Payhembury, Hembury Fort	ST 113030	EM 122/1930/182	impure sandstone	
116	1482	axe, fr	Payhembury, Hembury Fort	ST 113030	EM 119/1931	impure sandstone	
117	1483	axe, fr	Payhembury, Hembury Fort	ST 113030	EM	sheared greenstone	
118	1484	axe, fr	Payhembury, Hembury Fort	ST 113030	EM	greenstone	
119	1485	axe, fr	Payhembury, Hembury Fort	ST 113030	EM	greenstone	
120	1486	axe	Peters Marland, Twigbeare Fm	SS 478124	EM 152/1967	greenstone	
121	1543	b-a, II	Bere Alston, R Tamar	SX 4267	EM 4/1910	greywacke or impure sandstone	
122	1544	b-a, I ?	Bratton Fleming, Bratton Down	SS 6639	EM 18/1900/12/1	dolerite	
123	1545	b-a, I	Yettington, barrow on Woodbury Common	SY 0487	EM 1900/12/1	XII	
124	1546	a-h, I	Exmouth, Woodbury Common Ridge	SY 0283?	EM 336/1907	picrite (Trewen)	
125	1547	b-a, atypical	Tavistock Wallawork qy	SX 450730	EM 57/1923	silicified tuff ?	
126	1548	s-h adze, pt perf	Langtree, Berry Cross	SS 475146	EM 417/1906	quartzite	
127	1549	a-h, IIB	Honiton, Blannicombe	SY 1497	EM 318/1971	metamorphosed diorite	
128	1550	s-h adze	Bovey Tracey, North Bovey	SX 7584	EM 286 (loan)	greenstone	
129	1551	p-h	Cullumpton	ST 0307	em 64/1921	pure quartzite	
130	1552	axe	Peters Marland	SS 4713	em 116 (loan)	metamorphosed slate	
131	1558	axe ?	Kingswear, barrow on Brownstone Fm	SX 9050	EM 73/1949	jadeite	
132	1585	s-h adze	Okehampton, nr Northlew Church	SS 505199	pp	quartzite	*
133	1601	axe ?, fr	Lydford, Bagga Brook	SX 562814	pp	greenstone	
134	1602	axe, flake	Harberton, Hazard Hill	SX 755594	EM	IV	*
135	1603	axe	Harberton, Hazard Hill	SX 755594	pp	IV a	*
136	1604	axe, pt	Harberton, Hazard Hill	SX 755594	pp	dolerite	*
137	1609	axe, flake	Harberton, Hazard Hill	SX 755594	EM	flint	*
138	1619	axe, pt	Littlehempston, N of Uphempston	SX 824634	pp	IV a	
139	1647	axe, fr	topsham, The Retreat	SX 957890	EM	greenstone	*
140	1688	axe, rewkd	Lustleigh, East Wray	SX 781828	pp	VI	
141	1693	axe	churston Ferres, Churston Court Fm	SX 911565	pp	tuff	
142	1694	axe, fr	Churston Ferrers, Churston Court Fm	SX 911565	pp	greenstone	

150 *Lists of identifications*

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
143	1695	axe, fr	Churston Ferrers, Churston Court Fm	SX 911565	pp	altered gabbro	
144	1696	axe, fr	Churston Ferrers, Churston Court Fm	SX 911565	pp	altered epidiorite	
145	1697	axe, fr	Churston Ferrers, Churston Court Fm	SX 911565	pp	altered epidiorite	
146	1698	s-h adze, pt	Churston Ferrers, Churston Court Fm	SX 911565	pp	I	
147	1699	axe ?, fr	Illogan, Carn Brea	SW 686407	TM	sandstone	
148	1713	pebble	Churston Ferrers, Churston Court Fm	SX 911565	pp	altered sedimentary rock	
149	1714	pebble	Churston Ferrers, Churston Court Fm	SX 911565	pp	slate	
150	1715	pebble	Churston Ferrers, Churston Court Fm	SX 911565	pp	sandstone	
151	1716	pebble	Churston Ferrers, Churston Court Fm	SX 911565	pp	greywacke	
152	1746	mould, rapier	Holsworthy	SS 3404	Holsworthy	greenstone	
153	1750	axe	Okehampton	SX 5793	pp	tuff	
154	1751	axe	Colyton, Burnard's Field Rd	SY 2493	pp	epidiorite	
155	1755	axe	Christow, Bowden Fm	SX 823845	pp	altered gabbro	
156	1766	axe	Ide, Whiddon Fm	SX 887895	pp	greenstone	
157	1793	axe, fr	Churston Ferrers, Churston Court Fm	SX 911565	pp	gabbro	
158	1795	s-h adze	Dunsford, Bunsford Woods	SX 785885	pp	greenstone	
159	1808	axe	Croyde, Croyde Fm	SS 433406	EM 7/1983	XVI	
160	1817	axe	Otterton, Landsfield	SY 087843	pp	IV a	
161	1819	axe	Kentisbury Sch	SS 620435	Kentisbury Sch	greenstone	
162	1824	axe	Peter Tavy, Baggator Brook	SX 560811	pp	near I	

Dorset

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1	49	s-h adze, pt	unknown	-	DCM 0.12.1	dolerite	
2	50	axe, pt	Milton Abbas	ST 8001	DCM 0.16.1	I	
3	51	axe	Upwey, 'Bayard Fm'	SY 66857	DCM 0.17.1	II a	
4	52	axe, fr	Upwey, 'Ridgeway'	SY 66867	DCM 0.18.1	spotted slate	
5	53	axe, fr	Isle of Portland	SY 69727	DCM 0.19.1	XVII	
6	54	axe, fr	Bincombe, barrow G4	SY 681857	DCM 0.21.1	III	
7	55	axe, fr	Winterborne Monkton, 'Monkton Barrow'	SY 67877	DCM 0.49.1	tuff	
8	56	axe, fr	Cranborne, Boveridge Down	SU 0514	DCM 1863.1.1	IV a	
9	57	axe	unknown	-	DCM 1902.1.8	xvi	
10	58	axe, fr	Piddlehinton	SY 7197	DCM 1913.2.1	IV	
11	59	p-h, pt	Winterborne St Martin, barrow G79	SY 639868	DCM 1934.24.1	palaeozoic quartzite	
12	91	axe, fr	Preston, Jordan Hill	SY 7082	DCM 1885.16.110	III	
13	92	axe	Cranborne, Holwell Marsh	SU 0613	DCM 1886.5.1	I	
14	93	axe	Abbotsbury	SY 5785	DCM 1891.1.1	I	
15	94	axe	Frampton, Magiston Fm	SY 6396	DCM 1936.66.1	I	
16	95	axe, fr	Briants Puddle, Oakers Wood	SY 8091	DCM 1936.83.1	dolerite	
17	96	axe, fr	Tarrant Gunville, nr Bussey St-ol Camp	ST 9215	DCM 1927.14.1	IV a	
18	103	axe, fr	Bincombe (nr)	SY 68857	pp	I	
19	104	axe, fr	Bincombe (nr)	SY 68857	pp	sandstone	
20	105	axe, fr	Upwey, on Ridgeway	SY 66867	pp	VI	
21	106	axe, fr	Sherborne	ST 6215	pp	I	
22	107	axe, fr	Bradford Abbas, R-B site	ST 593152	pp	greenstone	
23	112	axe	unknown	-	DCM 0 10.1	IX	
24	113	axe	Alderholt, Warren Fm	SU 1211	dcm 1889.2.1	I	
25	114	axe	Bradford Peverell, Bridport Rd	SY 6490	DCM 1894.2 1	IV	
26	115	axe	Bere Regis	SY 8494	DCM 1896.2.1	I	
27	116	axe	Frampton, Magiston Fm	SY 6396	DCM 1936.40.1	I	
28	145	axe	Swanage?	SZ 02787	pp	unidentified (ns)	
29	195	s-h adze, pt	Marnhull	ST 7718	pp	XIX	
30	251	axe	Winterborne St Martin, Maiden Castle-	SY 674883	DCM	IV a	
31	252	axe, fr	Winterborne St Martin, Maiden Castle	SY 674889	DCM	IV a	
32	253	axe	Winterborne St Martin, Maiden Castle	SY 674883	DCM	greenstone	
33	254	axe, pt	Winterborne St Martin, Maiden Castle	SY 674883	DCM	IV	
34	255	axe, fr	Winterborne St Martin, Maiden Castle	SY 674883	DCM	XVII	
35	256	axe, fr	Winterborne St Martin, Maiden Castle	SY 674883	DCM	greenstone	
36	257	axe, pt	Winterborne St Martin, Maiden Castle	SY 674883	DCM	XVII	
37	258	axe, fr	Winterborne St Martin, Maiden Castle	SY 674883	IAL	metamorphosed shale	
38	259	axe, fr	Winterborne St Martin, Maiden Castle	SY 674883	IAL	IV a	
39	260	axe, fr	Winterborne St Martin, Maiden Castle	SY 674883	IAL	IV a	
40	261	axe, pt	Winterborne St Martin, Maiden Castle	SY 674883	IAL	XVI	
41	262	axe, rewkd	Winterborne St Martin, Maiden Castle	SY 674883	IAL	XIII	
42	263	axe, pt	Winterborne St Martin, Maiden Castle	SY 674883	IAL	chert	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
4 3	264	axe, fr	Winterborne St Martin, Maiden Castle	SY 674883	IAL	greenstone	
4 4	279	axe, fr	Winborne St Giles, Barrow G.9	SU 018172	DM 1070-1076	III a	
4 5	334	axe	Preston	SY 7082	DCM 1932, 1.1	Jadeite	
4 6	335	axe	Broadstone	SY 992947	DCM 1937, 60	VI	
4 7	336	axe	Wareham, Worgret	SY 9086	DCM 0 .231 1	quartzite	
4 8	337	p-h	Holt	SU 0203	DCM 1936.45.1	sanstone with tourmaline cement	
4 9	339	axe	Alderholt, Warren Fm	SU 1211	pp	greenstone	
5 0	348	axe	Swanage	SZ 0278	RHM	greenstone	
51	371	s h adze	Alderholt, Warren Fm	SU 1211	DCM 1884,5.1	sandstone	
52	372	p-h	Winterborne Stickland	ST 8304	DCM 1938.35.1	quartzite	
53	417	axe	Corfe Mullen, on Common	SY 997985	Bm 1940. 7-1. 578	siltstone	
5 4	418	axe	Branksome, Bourne valley Potterles	Sz 0692	BM 1940.7-1.582	greenstone	
55	422	axe or chisel	Poole, Creekmoor	SZ 0093	BM 1892.9-1.87	ophitic quartz dolerite	
5 6	555	axe, fr	Powerstock, Wytherstone	SY 5397	pp		
57	582	p-h	Iwerne Courtney, Hambledon Hill	ST 8412	pp	glaucanitic quartzite	
58	633	axe	Swannage	SZ 0278	AshM 1941. 1087	garnet granulite	
5 9	634	axe	nr Wareham	SY 9287?/	AshM 1927, 3466	greenstone	
6 0	635	ball	Parkstone	SZ 0491	DCM 1884. 9. 160	greenstone	
61	655	axe	Winterborne Houghton	ST 8104	BM 1892. 9-1. 85	greenstone	
62	656	axe	Blandford, Lauceston Fm	ST 9409?	Bm 1898. 9-1. 89	I	
63	657	axe	Blandford, Langton	ST 9006?	BM 1892. 9-1.89	greenstone	
64	688	axe	Corfe Castle	SY 6981	AshM 1955. 98	greenstone	
6 5	829	b-a. I ?	Whitchurch Canonicorum, Northay Fm	SY 380975	dcm 1952, 53 1	microdiorite	
66	866	axe	Okeford Fitzpaine, Okeford Hill	ST 815095	pp	epidotised tuff	
67	887	axe	Shapwick. nr Badbury Rings	ST 957030	Poole	VII	
68	948	axe, fr	Castleton	ST 635185	pp	greenstone	
69	949	chisel 7. fr	Castleton	ST 615167	pp	greenstone	
70	950	axe, fr	Bradford Abbas, R-B site	ST 593152	pp	I	
71	951	axe, fr	Bradford Abbas, R-B site	ST 593752	pp	greenstone	
72	952	axe, fr	Bradford Abbas, R-B site	ST 593752	pp	VI	
73	953	axe, fr	Bradford Abbas, R-B site	ST 593152	pp	XVII	
74	954	axe, fr	Bradford Abbas, R-B site	ST 593752	pp	greenstone	
7 5	955	misc, pin polisher ?	Bradford Abbas, R-B site	ST 593752	pp	sandstone	
76	956	hone, perf	Bradford Abbas, R-B site	ST 593752	pp	shale	
77	957	axe, fr	Sherborne, E of Bedoill Copse	ST 6114	pp	sandstone	
78	979	axe	Pprtesham, Black Down	SY 613876	DCM?	shale	
7 9	1048	p-h. pt	Winterborne Monkton	SY 673868	pp	quartzite	
80	1050	axe, fr	Buckland Newton	ST 675045	pp	ferruginous sandstone	
81	1055	hone ?	Winterborne St Nartub, S of Ash-ton Fm	SY 661872	pp	altered sandstone	
82	1056	hone ?	Winterborne St Martin, or Bayard Barn	SY 668869	pp	slate	
83	1057	hone ?	Winterborne Monkton	SY 673872	pp	slate	
84	1092	axe, fr	Bradford Abbas, E of golf course	ST 577156	pp	greenstone	
85	1095	axe	Wimborne	SZ 0199	pp	fine grained ultrabasic rock	
86	1101	b-a. V (S)	Tyneham, South Egliston	SY 8979	DCM 1892.31.1	greenstone	
87	1102	mould, palstave, pt	Marnhull, Allords qy	ST 795198	pp	glaucanitic quartzite	
88	1111	axe, fr	Bradford Abbas, East Fm	ST 589155	pp	spotted slate	
89	1116	axe, fr	Bradford Abbas, East Fm	ST 589155	pp	micaceous sandstone	
90	1122	axe	Netherbury, nr Elwell Fm	SY 470968	pp	jadeite (ns)	
90a	1194	axe	Sturminster Marshall, newton pe-veril	SY 9398	lost (ex Farnham)	jadeite (ns)	
9 1	1198	axe, fr	Woodyates, Bokerley Junction	SU 032198	SSWM 3H 3 23	I	
9 2	1203	axe	Netherbury, Kershay Fm	SY 459974	Bridport	tuff	
93	1282	axe	Iwerne Courtney, Hambledon Hill	ST 850123	pp	nephrite	
94	1283	axe	Sutton Poynts	SY 698853	DCM 1962.2	greenstone	
95	1284	axe	Dorchester	SY 6990	DCM 1938. 33. 1	jadeite (ns)	
96	1285	axe, fr	Dorchester, E of Poundbury	SY 666911	DCM	I	
97	1327	miner's tool	Compton Abbas, Hawkecombe Lane	ST 865183	SSWM	sarsen	
98	1334	axe	Gillingham?	ST 81267	BM 1911. 10-902	tuff	
99	1335	hammer, light	'Dorset'		BM 1892. 9-1. 106	greenstone	
100	1347	p-h, pt	Winborne, Holt Wood	SU 030057	RHM d 85/1966	quartzite	
101	1350	axe	Stratton	SY 639942	DCM	sandy silicified shale	
102	1358	pestle ?	Abbotsbury, NW of hillfort	SY 554868	pp	quartzite	
103	1359	axe	Abbotsbury, NW of hillfort	SY 554868	pp	I a	
104	1390	axe, fr	Winterborne Came	SY 694863	pp	sheared greenstone	
105	1392	mace, Thames pestle. pt perf	Longbredy, Martin's Down	SY 576908	pp	hornblende dolerite	
106	1935	quern or rubber, fr	Iwerne Courtney, Hambledon Hill	ST 850123	DCM	glaucanitic quartzite	
107		quern, fr	Iwerne Courtney, Hambledon Hill	ST 850123	DCM	glaucanitic quartzite	
108	1397	pebble fr	Iwerne Courtney, Hambledon Hill	ST 850123	DCM	ferruginous sandstone	
109	1405	axe, pt	Gussage St Michael, on Dorset Cursus	ST 993138	GM	VII	
110	1046	pebble	Gussage St Michael, Gussage Hill	ST 994141	GM	devitrified rhyolite	
111	1433	axe	Compton Valence	SY 597933	pp	greenstone	
112	1454	S h adze, pt, pt pe-rf	Halstock	ST 533076	pp	I	
113	1456	axe ?, r-o ?	West Stafford, Mount Pleasant	SY 709899	DCM	chert with foraminifera	
114	1497	axe	Parkstone, South-West pottery clay pit	SZ 0491	CUM A. 1905. 326	jadeite (ns)	
115	1553	axe	Bloxworth, SE of Oak Hill	SY 887932	dcm 1965. 13	VI	
116	1555	axe	Stourpaine	ST 8609	BM 1892. 9-1. 101	quartzite	
117	1581	axe, fr	West Stafford, Mount Pleasant	SY 710900	DCM	greenstone	*
118	1582	axe	West Stafford, Mount Pleasant	SY 710900	DCM	greenstone	*
119	1591	rubber ?	West Stafford, Mount Pleasant	SY 710900	DCM	sandstone	*
120	1600	axe	Gussage All Saints	ST 998101	DCM	greenstone	*
121	1614	mace ?, fr	Gussage, St Michael, Down Farm	SU 007149	DCM	greenstone	
121a	1614a	pebble	Gussage St Michael, Down Fm	SU 007149	GM	quartzite	
122	1618	S-h adze	Alderholt, Bullhill	su 111143	pp	XVII	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
123	1648	axe, fr	Sixpenny Handley. Woodcuts Com- mon	ST 965178	GM	I	*
124	1649	axe, fr	Iwerne Courtney, Hambledon Hill	ST 850123	DCM	XVI	*
125	1650	axe, flake	Iwerne Courtney, Hambledon Hill	ST 850123	DCM	IV	*
126	1651	axe, flake	Iwerne Courtney, Hambledon Hill	ST 850123	DCM	greenstone	*
127	1660	axe, fr	Sixpenny Handley, Woodcuts Com- mon	ST 965177	GM	I	*
128	1675	axe, pt	Shroton, Ranston Hill	ST 870127	PP	tuff	
129	1676	pestle	Shroton, Ranston Hill	ST 870127	PP	altered amphibolite	
130	1677	axe, fr	Isle of Portland, Southwell	SY 687699	PP	altered amphibolite	
131	1678	axe, pt	Isle of Portland, field 2214	SY 682689	PP	I	
132	1679	a-h or b-a, fr	Isle of Portland, N of Longstone	SY 686693	PP	sandstone	
133	1680	axe, pt	Iwerne Courtney, Hambledon Hill	ST 850123	DCM	XVI	*
134	1681	axe	Iwerne Courtney, Hambledon Hill	ST 850123	DCM	greenstone	*
135	1682	axe	Iwerne Courtney, Hambledon Hill	ST 850123	DCM	jadeite	*
136	1683	axe, fr	Iwerne Courtney, Hambledon Hill	ST 850123	DCM	altered amphibolite	*
137	1684	axe, fr	Iwerne Courtney, Hambledon Hill	ST 850123	DCM	altered amphibolite	*
138	1685	axe, fr	Iwerne Courtney, Hambledon Hill	ST 850123	DCM	altered amphibolite	*
139	1686	axe, flake	Iwerne Courtney, Hambledon Hill	ST 850123	DCM	VIII	*
140	1687	axe, flake	Iwerne Courtney, Hambledon Hill	ST 850123	DCM	VI	*
141	1690	axe, rewkd	Gillingham, Common Mead Lane	ST 802263	PP	VI	
142	1744	rock	Woodlands, on barrow G5	SU 023096	DCM	diorite	*
143	1759	axe, pt	Iwerne Courtney, Hambledon Hill	ST 850123	DCM	tuff	*
144	1760	axe, fr	Iwerne Courtney, Hambledon Hill	ST 850123	DCM	altered gabbro	*
145	1761	axe, flake	Iwerne Courtney, Hambledon Hill	ST 850123	DCM	altered gabbro	*
146	1762	axe, fr	Iwerne Courtney, Hambledon Hill	ST 850123	DCM	I	*
147	1763	axe, flake	Iwerne Courtney, Hambledon Hill	ST 850123	DCM	I	*
148	1764	axe, flake	Iwerne Courtney, Hambledon Hill	ST 850123	DCM	siltstone	*
148a	1764a	axe, perf	Wootton Fitzpaine	SY 3695	DCM 1942,33.1	jadeite (ns)	*
149	1768	flake	Iwerne Stepleton, Stepleton Enc- losure	ST 856115	DCM	greenstone	*
150	1778	axe	Studland, Ballard Down	SZ 045813	DCM	tuff	
151	1779	axe	Iwerne Stepleton, Grammars Hill	ST 888127	GM	greenstone	*
152	1780	axe, fr	Gussage St Michael, Down Fm	SU 000146	GM	greenstone	*
153	1781	axe, fr	Gussage St Michael, Down Fm	SU 000146	GM	greYWacke	*
154	1782	axe	Gussage St Michael, Down Fm	SU 000146	GM	VII	*
155	1783	axe	Gussage St Michael, Down Fm	SU 000146	GM	greenstone	*
156	1784	misc artefact, fr	Gussage St Michael, Down Fm	SU 000146	GM	III	*
157	1785	axe, fr	Gussage St Michael, Down Fm	SU 000146	GM	I	*
158	1786	pebble, utilised	Gussage St Michael, Down Fm	SU 000146	GM	limestone	*
159	1789	b-a, I, pt	Hentistbury Head	SZ 172908	R-CAGM	olivine dolerite	*
160	1803	axe	Iwerne Stepleton, nr Stepleton Enclosure	ST 855115	SNHS	amphibole	*
161	1804	mould, socketed axe fr	Iwerne Stepleton, Everley Meadow	ST 8611	DCM	syenite	
162	1818	axe	Iwerne Stepleton, Stepleton Enc- losure	ST 856115	DCM	near XVII	
163	1825	axe	Gussage St Michael, Wyke Down	SU 006152	PP	VIII	

Gloucestershire

NO.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1	75	axe, fr	Bristol, Shirehampton	ST 5377	destroyed (ex BCM)	VIII	
2	78	axe	Ozleworth	ST 7993	destroyed (ex BCM)	I	
3	84	axe	Andoversford	SP 0219	CM	IX	
4	85	axe	Andoversford	SP 0219	CM	slate	
5	90	wedge ?	Berkeley, Salter St	ST 6899	Stroud	greenstone	
6	97	axe, pt	Swell, Upper Swell	SP 1726	PP	VII	
7	98	axe	Sudeley, nr Charlton Abbots	SP 0324?	PP	greenstone	
8	118	axe	Weston Subedge	SP 122411	PP	greenstone	
9	119	axe, pt	Upper Slaughter, Copse Hill	SP 1623	BCM (loan)	VII	
10	120	axe, fr	Condicote, Hinchwick	SP 1430	PP	II a	
11	121	axe, fr	Withington, Foxcote	SP 0118	PP	VI	
12	130	axe	Hucclecote, Larkhay Rd	SO 871177	GCM L.63	greenstone	
13	135	axe	Gloucester	SO 8318	PP	VI	
14	171	flake	Nailsworth	ST 8599	WMHM	VII	
15	190	rubber ?	Condicote	SP 1528	PP	greenstone	
16	318	axe, fr	Tewkesbury	SO 8933	PP	slate	
17	324	axe	Sapperton, Daneway	so 9403	PP	VII	
18	367	hone	Coaley, Lapley Fm	SO 7602	PP	carbonaceous shale	
19	370	axe, fr, rewkd	Bristol, Kings Weston Park	ST 534775	UBSS	carbonaceous baked shale	
20	548	axe, fr	Cold Ashton, Freezing Hill	ST 7271	KS F.72	calcareous sands tone	
21	572	axe	Somerford Keynes	SU 0195	Malmesbury	I	
22	637	axe	Cirencester, Watermoor	SP 0301	AshM 1955.92	ironstone	
23	671	misc, palaeolith	Hucclecote, Barnwood gravel pit	so 8518	CUM	porphyritic basalt	
24	746	axe	Gloucester, Robins Wood Hill	SO 839149	GCM A.2721	VI	
25	822	axe	Lechlade, Butler's Court	SU 206999	PP	VII	
26	844	axe	West Dean, Clement End	SO 588089	GCM 253/1952	greenstone	
27	890	misc, socket stone	Witcombe	so 9114	PP	limestone	
28	910	p-h, pt	Winterbourne, Bury Hill Camp	ST 6579	UBSS	sandstone	
29	942	axe	Awre, Viney Hill	SO 655066	PP	VI	
30	1061	hone, medieval	Bristol, Baldwin St	ST 588729	BCM	altered sandstone	
31	1062	hone, medieval	Bristol, Baldwin St	ST 588729	BCM	sandstone	
32	1079	axe	Oddington, Upper Oddington	SP 2225?	CM	III	
33	1080	flake	Nailsworth	ST 8599	WMHM?	devitrified rhyolite or trachy- te	
34	1081	flake	Nailsworth	ST 8599	WMHM?	devitrified rhyolite or trachy- te	
35	1085	flake	Nailsworth	ST 8599	WMHM?	VII	
36	1086	flake	Nailsworth	ST 8599	WMHM?	Limestone	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
37	1091	axe	Elmore, Hollow Fm	SO 786141	GCM L. 104	tuff	
38	1100	axe	Bentham	SO 912165	GCM 1, 151/1958	spotted slate	
39	1120	flake	Nailsworth	ST 8599	WMHM?	VII	
40	1125	axe	Cheltenham (nr)	SO 92	GCM 115/1959	sheared epidiorite	
41	1126	axe	Boxwell-with-Leighterton	ST 8192	GCM L. 123	spotted slate	
42	1156	axe	Oxenton	SO 958314	CM G. 1961. 18	I	
43	1157	axe	Cheltenham, Arle	SO 927238	pp	XVI	
44	1193	axe	Olveston, Haw Lane	ST 604870	BCM F. 3841	I	
45	1209	Hammer,, light	Winterbourne, brickworks	ST 634805	BCM F. 4457	greenstone	
46	1229	axe	Stinchcombe	ST 740987	Stroud 33, 27	VI	
47	1230	axe	unknown	—	Stroud 45. 31	IX	
48	1231	misc, pin polisher,	Uley, Uleybury	ST 784987	Stroud 45. 32	sandstone	
49	1232	pt	Sapperton, Frampton Mansell	SO 9302	Stroud 56. 114	VI	
50	1233	axe	Bisley. Water Lane	SO 91640	Stroud 45. 33	ophitic dolerite	
51	1234	axe	Brimscombe	SO 870023	Stroud 61.237	grenstone	
52	1235	mace, ovoid B, pt	Cam, Lower Knapp Fm	SO 744011	BCM	limestone	
53	1245	a-h, IIa	Cromhall	ST 6990	BCM	XII	
54	1270	axe	Longhope, Nag's Head	SO 681203	GCM L. 153	greenstone	
55	1286	axe	Hill	ST 645950	BCM	ultrabasic rock	
56	1290	axe	Hucclecote, Glenville Gardens	SO 871172	GCM I .2/1965	mudstone	
57	1296	axe, pt	'in a tumulus on the Cotswolds'	—	TNHSM A.307	epidotised tuff	
58	1298	axe, flake	Temple Guiting, barrow G.8	SP 108285	GCM	VI (ns)	
59	1299	axe, pt	Syde	SO 9511	GCM 6/1965	greenstone	
60	1301	axe	Harescombe	SO 8410	pp	tuff	
61	1311	axe ?, fr	Procester, Procester Court Roman villa	SO 785029	GCM	devitrified pitchstone	
62	1360	axe, fr	Stroud, Middle Hyde	SO 886016	pp	VII	
63	1361	axe, flake	Icomb, within hill-fort	Sp 205230	GCM	greenstone	
64	1391	deleted	.	—	—	.	
65	1407	axe, fr	Coberley, Ullenwood	SO 9417	GCM 79/1968	VI	
66	1412	axe, fr	Dyrham and Hinton. Within hill-fort	ST 742768	GCM	VI	
67	1413	axe	Wotton-under-Edge	ST 7593	BCM F. 4369	IX	
68	1416	axe, pt. rewkd	Slimbrige, white House Fm	SO 747025	GCM 104/1968	VII	
69	1427	axe	'Cleeve Hill area'	SO 98277	pp	nephrite (ns)	
70	1428	axe	Yate, nr Yate Court	ST 713860	BCM F. 4386	devitrified glassy rhyolite	
71	1439	flake, wkd	Long Newton, nr Addy's Firs	ST 931936	pp	Vi	
72	1440	misc artefact, fr	Cherington. Oxpond	ST 916961	pp	chert	
73	1447	mace, ovoid B	Rendcomb?	SP 01107	RC	olivine dolerite	
74	1455	axe	Whittington, Wycomb	SP 025197	pp	tourmaline granite	
75	1460	axe. fr	Andoversford	SP 0219	CM	IX	
76	1461	axe. pt	ANDoversfod	SP 0219	CM	IX	
77	1462	axe	Leckhampton	SO 9419	CM	limestone	
78	1463	axe	Cowley. Birdlip	SO 9214	CM	VI	
79	1464	axe	Miserden, Camp	SO 9109	CM 1934.179	I	
80	1465	axe	Coberley, Salterley Grange	SO 948177	CM 1957. 67	VI	
81	1466	axe	Charlton Kings. Battledown	SO 961218	CM 1930. 15	nephrite	
82	1467	axe	Gloucester, Finlay Rd	SO 838162	CM	microgabbro	
83	1468	axe	Leckhampton	SO 9419	CM	porphyritic rhyolite	
84	1469	b-a. foreign ?	unknown	—	CM 1930.4	quartz hornblende schist	
85	1470	mace. Thames pestle.	Rendcomb. Eycot Wood	SP 003107	CM 1945. 36	I	
86	1471	s-h adze	Cutsdean, nr Half Moon Lodge	SP 107319	CM 1948. 12	sandstone	
87	1472	p-h	Temple Guiting. Ford	SP 083293	CM 1946. 57	quartzite	
88	1473	s-h adze	Hucclecote	SO 8717	CM	sandstone	
89	1487	axe, flake	Ashley, nr Ashley Marsh Covert	ST 923937	pp	quartzite	
90	1488	axe, flake	Cherinyon, Oxpond	ST 916961	pp	flint	
90a	1488a	axe, flake	Cherington, Oxpond	ST 916961	pp	flint	
91	1489	axe, flake	Horsley. nr long barrow GI	St 860977	pp	VI	
92	1490	axe ?, fr	Avening, nr Brandhouse Fm	ST 857983	pp	VII	
93	1493	axe. flake	Cherington, Oxpond	ST 916961	pp	flint	
94	1502	b-a. V (S)	Snowhill. barrow G5	SP 092332	BM WG 2129	XII	
95	1586	axe. flake	Procester, Procester Court Roman villa	SO 785029	GCM	rhyolite	
96	1587	axe	Funtisbourne Rouse, E of Dartley Fm	SO 997076	pp	greenstone	
97	1588	axe, flake	Avening, nr Hazel Wood	ST 865986	pp	VI	
98	1592	rotary quern. fr	Kingscote. The Chessals	ST 809955	GCM 104/1969	lava (Niedermendig)	
99	1593	axe, flake	Long Newtn, nr Newton Gorse	ST 919936	pp	chalcadony	
100	1607	axe, fr	Alkington, Michaelwood Fm	ST 710959	BCM	VIII	
101	1608	axe. fr	Alkington. Upper Wick Fm	ST 716965	BCM	XX	
102	1610	axe, flake	Cherington, N of Troublehouse Covert	ST 916961	pp	flint (ns)	
103	1616	axe, fr	Cold Ashton, Freezing Hill	ST 724714	BCM	I	
104	1625	axe, fr	Brimsfield. Manless Town	SO 928116	pp	VII	
105	1644	axe, fr	Procester, Procester Court Roman villa	SO 785029	GCM	altered amphibolite	
106	1645	axe, fr	Procester, Procester Court Roman villa	SO 785029	GCM	tuff	
107	1646	axe, fr	Procester, Procester Court Roman villa	SO 785029	GCM	tuff	
108	1655	hone	Poulton, Poulton Priory	SO 095995	LCM D 161.1964	limestone	
109	1656	axe	Cranham, Overton Fm	SO 8912	CM 1975 33	VI	
110	1657	axe, fr	Cowley, Shab Hill	SO 9315	CM 1975 34	tuff	
111	1658	axe. flake	Ashley. nr Ashley Marsh	ST 927933	pp	tuff	
112	1700	axe	Cheltenham, Pentathlon Way	SO 945241	pp	epidiorite	
113	1701	axe, flake	Uley, Uleybury	ST 784988	CM	ash	
114	1702	axe, fr	Ashley, Long Thong	ST 924935	pp	ash	
115	1703	axe, flake	Ashley, nr Ashley Marsh	ST 928932	pp	ash	
116	1717	axe	'Gloucestershire'	---	GCM A.3716	andesite	
117	1717	axe	Wotton-under-Edge, Tabernacle Rd	ST 7593	pp	slate	
118	1719	axe, flake	Uley, Uleybury	ST 785990	CM 1978,234	slate	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
119	1747	b-a, II	St Briavels, Roads Fm	SO 578052	GCM 26/1978	XVIII	
120	1756	axe	Great Witcombe, Roman villa	SO 899143	CM 1978.653	tuff	*
121	1767	axe	Cirencester, Beeches Rd	SP 029017	Corinium 1976.380	VI	
122	1773	axe	Ashley	ST 933935	pp	impure micaceous sandstone	
123	1774	b a, foreign ?	Wotton-under-Edge. Oatground	ST 76+3932	pp	ophitic dolerite	
124	1787	axe, fr	Cheltenham, Leckhampton Rd	SO 948197	pp	VI	
125	1796	axe, flake	Cowley, Peak Camp	SO 924151	pp	VI	*
126	1809	axe, pt	'Cotswolds'		Worcester	VI	
127	1810	s-h adze ? . p t	Stow-on-the-wold	SP 1925	Birmingham	coarse andesitic tuff	
128	1811	flake	Tytherington	ST 651868	BCM	limestone	
129	1814	axe, flake	Hazleton, Barrow Ground Field	SP 073189	Corinium	VI	
130	1815	axe, flake	Cowley, nr Birdlip	SO 932154	lost	VI	
131	1820	axe	Leckhampton	SO 944182	pp	sub-ophitic dolerite	

Jersey

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1	351	axe	Unknown		Soc Jersiaise 52	greenstone	
2	352	axe	Unknown		Soc Jersiaise 59	spotted slate	
3	353	axe, pt	Unknown		Soc Jersiaise 60	dolerite	
4	354	axe, pt	Unknown		Soc Jersiaise 63	greenstone	
5	355	axe, pt	Unknown		Soc Jersiaise 71	greenstone	
6	356	axe	Unknown		Soc Jersiaise 72	alterite dolerite	
7	357	axe, fr	Unknown		Soc Jersiaise 75	greenstone	
8	358	axe, fr	Unknown		Soc Jersiaise 233	greenstone	
9	359	axe, fr	Unknown		Soc Jersiaise 234	ophitic dolerite	
10	360	axe, fr	Unknown		Soc Jersiaise 237	greenstone	
11	361	axe, fr	Unknown		Soc Jersiaise 344	X	
12	362	axe, fr	Unknown		Soc Jersiaise 553	weathered dolerite	
13	1363	axe, pt	St Mary, nr La Grange		pp	greenstone	
14	1364	axe	St Mary, nr La Grange		pp	non-ophitic dolerite	
15	1499	axe	Grouville, nr La Hougue Bie		Soc Jersiaise 18	jadeite (ns)	
16	1500	axe	Trinity		BM Sturge collection	jadeite (ns)	
17	1501	axe	Unknown		Soc Jersiaise 18A	jadeite (ns)	

Somerset

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1	43	axe	Norton sub Hamdon. Ham Hill	ST 4717	SCM 2209	IV	
2	44	axe, pt	Norton sub Hamdon. Ham Hill	ST 4717	SCM 2210	IV	
3	45	axe, pt	Norton sub Hamdon. Ham Hill	ST 4717	SCM 2211	XVI	
4	46	axe or chisel.	Norton sub Hamdon. Ham Hill	ST 4717	SCM 2212	greenstone	
5	47	rock	Norton sub Hamdon. Ham Hill	ST 4717	SCM	greenstone	
6	48	rock	Norton sub Hamdon. Ham Hill	ST 4717	SCM	spotted slate	
7	60	axe, pt	Norton sub Hamdon. Ham Hill	ST 4717	SCM A. 2213	XVI	
8	61	p-h ?, pt	Norton sub Hamdon. Ham Hill	ST 4717	SCM 57	argillaceous limestone	
9	62	rubber, fr	Norton sub Hamdon. Ham Hill	ST 4717	SCM	conglomerate	
10	63	axe	Barton St David	ST 5431	SCM A 2169	XVI	
11	79	axe, pt	Portbury, Wharf Lane	ST 488765	destroyed (ex BCM)	I	
12	81	axe, pt	unknown		SCM A.2196	sandstone (ns)	
13	82	polisher	Norton sub Hamdon. Ham Hill	ST 4717	SCM A. 1810	greenstone	
14	83	axe, fr	Norton sub Hamdon. Ham Hill	ST 4717	SCM A. 2214	greenstone	
15	101	axe	St Cuthbert Out, Ebbor	ST 527493	WM	IV	
16	126	axe	Wraxall, Failand, Horse Race qy	ST 504730	CUM 22.146	glaucophane schist	
17	127	axe	Wraxall, Failand, Horse Race qy	ST 504730	CUM 22. 103	jadeite	
18	128	axe	Wells, railway station	ST 545453	CUM 22.88	greenstone	
19	224	axe	Portishead, Marine Lake	ST 464772	BCM F.2384	chert	
20	227	axe	North Petherton. Pilot's Helm	ST 298333	SCM	I a	
21	232	axe, fr	Meare, Iron Age village (West)	ST 4442	SCM	I	
22	267	polisher	Norton sub Hamdon, Ham Hill	ST 4717	SCM A. 1908	III	
23	407	axe	Langford Budville. Fidler's Gro-und	ST 1122	SCM (ex SSWM)	greenstone	
24	495	axe	Broadway	ST 3215	SCM A.3436	I	
25	541	axe, fr	Radstock, Rowberrow Field	ST 690563	pp	I	
26	544	axe or Hone, fr	North Stoke?, 'Roman Camp'	ST 70687	KS F.571	sandstone	
27	545	axe, fr	Bath, Lansdown	ST 7268?	KS D.S.S.	VII	
28	546	pebble	Bath, Lansdown	ST 7268?	KS F. 570	tourmaline (schorl)	
29	547	axe, fr	Bath, Lansdown	ST 7268?	KS F 584	tuff	
30	567	axe ?, fr	Radstock, Rowberrow Field	ST 690563	pp	micaceous sandstone (ns)	
31	568	axe ?, fr	Radstock, Rowberrow Field	ST 690563	pp	limestone (ns)	
32	569	axe ?, fr	Radstock, Rowberrow Field	ST 690563	pp	red sandstone (ns)	
33	570	axe ?, fr	Radstock, Rowberrow Field	ST 690563	pp	quartzite (ns)	
34	587	axe	Bath, Anstey's brickyard	ST 7464?	KS	I	
35	608	axe	South Brewham, Cards Fm	ST 7234	SCM	XVI	
36	475	axe	Compton Martin	ST 5457	BCM 83/1951	andesite	
37	858	axe	Weston-s-Mare, Worlebury Hill	ST 3262	pp	altered slate	
38	889	a-h, - IIb	Keynsham	ST 6568	BCM	XII	
39	899	axe	Priddy	ST 5251	BCM F. 3616	I	
40	902	axe, fr	Bishop Sutton, Chew Park Fm (site of)	ST 568594	BCM	VI	
41	903	axe ?, fr	Bishop Sutton, Chew Park Fm (site of)	ST 568594	BCM	sandstone	
42	911	s-h adze	Compton Martin, Moreton (site of)	ST 563592	BCM	sandstone	
43	918	axe	Keynsham	ST 6568	pp	quartz dolerite	
44	919	b-a, I	Wookey, Wookey hole	ST 532481	Wookey Hole	coarse olivine dolerite	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
45	927	axe	Long Ashton, Research Station	ST 5369	PP	greenstone	
46	934	pebble	Meare, Iron Age village, East	ST 4442	SCM	greenstone	
47	935	rock	Meare, Iron Age village	ST 4442	SCM	sandstone	
48	936	polisher ?	Meare, Iron Age village, East	ST 4442	SCM	slate	
49	937	rock	Meare, Iron Age village	ST 4442	SCM	chert	
50	939	axe, fr	Abbots Leigh, NW of Deer Park	ST 5474	BCM L.544M	I a	
51	958	pestle ?	Charlton Horethorne	ST 6623	PP	greenstone	
52	961	pounder ?	Meare, Iron Age village	ST 4442	SCM	diorite	
53	975	axe	Shepton Mallet	ST 6243	SMM M/12/47	VI	
54	1039	misc, pendant	Meare, Iron Age village	ST 4442	SCM	shale	
55	1040	disc	Meare, Iron Age village	ST 4442	SCM	limestone	
56	1071	axe, fr	Priddy	ST 5251	BCM	X	
57	1097	axe ?, fr	Milborne Port	ST 658219	PP	dolerite	
58	1105	axe	Witham Friary	ST 7440	PP	I	
59	1142	axe	Wiveliscombe	ST 0827	SCM A.2188	IV a	
60	1143	axe, fr	Norton sub Hamdon, Ham Hill?	ST 4717	SCM A.3126	I	
61	1145	a-h, IIb ?	Cameley	ST 603589	SCM A.2160	sandstone	
62	1146	s-h adze	Lydford, West Lydford	ST 565309	SCM A.2173	greenstone	
63	1147	s-h adze	Pitminster	ST 221192	SCM A.2180	sheared greenstone	
64	1148	axe	Norton sub Hamdon, Ham Hill	ST 4717	SCM A.2208	decomposed quartz dolerite	
65	1149	axe	Emborough?, Bablington	ST 602493	SCM A.2164	non-ophtic dolerite	
66	1150	axe	Bath	ST 7464	SCM A.2157	VI	
67	1151	axe	Elworthy	ST 070337	SCM A.2167	spotted slate	
68	1200a	axe	Shapwick, Shapwick Heath	ST 4133	PP	VII	
69	1208	mace, ovoid, pt	Cheuton Mendip, Rookery Fm	ST 577510	PP	quartzite	
70	1216	s-h adze, pt	Dunster	SS 999446	SCM 62.A.63	slate	
71	1217	axe, pt	Norton sub Hamdon, Ham Hill	ST 4717	SCM 62.A.66	greenstone	
72	1218	rubber	Norton sub Hamdon, Ham Hill	ST 4717	SCM	greisen	
73	1240	axe	Crewkerne	ST 4409	SCM 61.A.13	greenstone	
74	1241	axe, fr	Norton sub Hamdon, Ham Hill	ST 4717	SCM 62.A.84	IV	
75	1242	axe	Minehead, Higher Hopcott	SS 9645	SCM 62.A.70.2	greenstone	
76	1243	axe	Minehead, Higher Hopcott	SS 9645	SCM 62.A.70.1	cleaved sandy shale	
77	1247	axe	Bath (nr)	ST 76	BRM	greenstone	
78	1248	axe	Bath (area)	ST 76	BRM	greenstone	
79	1249	axe, pt	Bath (area)	ST 76	BRM	VI	
80	1250	axe, fr	Bath?, Lansdown	ST 7268?	BRM	IV	
81	1251	s-h adze, pt perf	Langridge, Upper Langridge Pm	ST 736686	BRM	greenstone	
82	1256	axe, fr	Tickenham, nr Jacklands Bridge	ST 4372	BCM	greenstone	
83	1258	axe	Taunton, NE of Greenway Rd	ST 221260	SCM A.2165	quartzite	
84	1259	axe	Meare, Iron Age village West	ST 4442	SCM	greenstone	
85	1260	s-h adze	Clevedon, Strawberry Hill	ST 415718	SCM A.2163	quartzite (ns)	
86	1261	p-h	Croscombe?, nr Maesbury Camp	ST 610472	SCM 50.A.50	quartzite (ns)	
87	1263	p-h	Lucombe	SS 911457	SCM A.2172	sedimentary rock ? (ns)	
88	1264	p-h, pt perf	Penselwood (nr)	ST 7531?	SCM 59.A.39	quartzite	
89	1265	p-h	Porlock, Weir Wood	SS 829462	SCM 62.A.10	impure sandstone	
90	1293	misc artefact ?	Porlock, on beach	SS 8748	TNHS A.313	quartz porphyry	
91	1300	axe	Mark, Mill Batch Fm	ST 387476	PP	granophyre (Markfieldite)	
92	1310	axe, fr	Wookey, Rookham	ST 548485	WM	chert	
93	1316	a-h, fr	St Cuthbert Out, Ebbor	ST 5249	WM	XII	
94	1320	pebble	St Cuthbert Out, East Water Fm	ST 536508	PP	quartzite (Old Red Sandstone)	
95	1322	axe	St Cuthbert Out, Wells Golf Club	ST 567458	BCM (loan)	greenstone	
96	1336	a-h, II, pt	Priddy, Priddy mines	ST 5453	BM 1937.12-15	micaceous sandstone	
97	1351	p-h	Williton, S of Washford Cross	ST 495622	PP	quartzite	
98	1362	axe	Portishead, Nore Park	ST 447766	BCM	I	
99	1373	axe	Glastonbury, Glastonbury Tor	ST 513385	SCM	sheared greenstone	
100	1375	axe, pt, rewkd	St Cuthbert Out, above Ebbor Go-	ST 526493	BCM F.4336	VII	
101	1376	axe, fr	St Cuthbert Out, above Ebbor Go-	ST 526493	BCM F.4337	jadeite	
102	1377	rubber, fr	St Cuthbert Out, above Ebbor Go-	ST 526493	BCM F.4458	quartzite	
103	1401	axe	Bathampton	ST 7866	BM 1937.3-8.1	greenstone	
104	1402	misc, spindle whorl	Meare, Iron Age village West	ST 4442	SCM	greenstone	
105	1417	p-h	Simonsbath (nr)	SS 7739?	SCM 66.A.68	greenstone	
106	1419	b-a, fr	Benwell, Knightcott	ST 378595	Weston-s-Mare	augite granophyre	
107	1429	axe	Chew Stoke, Pagans Hill	ST 555625	PP	silicified acid tuff	
108	1492	s-h adze	Winscombe, Max	ST 403575	BCM F.4459	diorite	
109	1513	b-a, III	Mells, Holwell	ST 713499	WM 644	XII	
110	1514	axe	Wedmore	ST 4347	WM 651	VI	
111	1515	axe	Priddy, 'Doles'	ST 5251?	WM 649	acid tuff or silicified shale	
112	1516	axe, fr	Priddy	ST 5251	WM 648	quartzite	
113	1517	axe	Priddy	ST 5251	WM 647	sandstone	
114	1518	p-h	Wookey, Coxley	ST 531438	WM 645	sandstone	
115	1519	p-h	Priddy	ST 5251	WM 643	impure micaceous sandstone	
116	1520	rubber	Priddy	ST 5251	WM 650	mica syenite	
117	1521	pounder	'Mendips'	ST 5251	WM 652	quartzite or vein quartz	
118	1522	pebble, utilised	'Mendips'	ST 5251	WM 648	micaceous sandstone	
119	1523	hammer, light	Priddy	ST 5251	WM 642	impure sandstone	
120	1556	axe, fr	Butcombe, Row of Ashes Fm	ST 608629	PP	greenstone	
121	1557	axe, fr	Butcombe, Row of Ashes Fm	ST 608629	PP	quartzite	
122	1589	axe	Englishcombe, Inglesbatch	ST 707622	PP	greenstone	
123	1594	axe ?, fr	Bath, Walcot St	ST 7464	BRM	limestone	
124	1596	axe, pt	Bethampton	ST 775664	BRM	xx	
125	1599	s-h adze, fr	Wookey, Lower Pitts Fm	ST 353150	BCM	tuff	
126	1615	axe, fr	Charlcombe, Lansdown	ST 722693	BCM	xv	
127	1621	axe, fr	South Cadbury, South Cadbury Ca-	ST 628252	see note	IV a	*
128	1622	p-h, fr	South Cadbury, South Cadbury Ca-	ST 628252	see note	quartzite (ns)	*
129	1642	axe, fr	Taunton	ST 227249	SCM	greenstone	*
130	1654	axe	Shapwick, Sweet Track	ST 423404	CUM	jadeite (ns)	*
131	1659	axe	Williton, Long St	ST 081525	PP	quartz dolerite	
132	1689	a-h, II	Aller	ST 388291	SCM (loan)	altered amphibolite	
133	1691	a-h, fr	Chedzoy	ST 351375	SCM	altered amphibolite	

N.O.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
134	1705	s-h adze	Dunster	SS 999446	PP	sandstone	*
135	1706	s-h adze	Dunster	SS 999446	PP	sandstone	*
136	1707	s-h adze	Dunster	SS 999446	PP	sandstone	*
137	1723	axe ?, fr	Beckington, Bonnyleigh Hill	ST 795515	PP	limestone	
138	1745	axe	Norton St Philip	ST 783572	SCM	slate	
139	1769	axe, flake	Priddy	ST 5350	PP	VII	
140	1770	axe, flake	Priddy	ST 5350	PP	tuff	
141	1775	axe	Westbury-sub-Mendip	ST 51403	PP	unknown (section lost)	
142	1777	axe	williton	ST 077407	PP	I a	
143	1788	axe	Shapwick?, Decoy Pool	ST 4133?	SLP	XVI	*
144	1791	axe, fr	Luccombe	SS 9144	SCM 69-A-12	I	
145	1792	axe	Bathealton	ST 085256	SCM	chloritised dolerite	
146	1798	axe, fr	Glastonbury, Iron Age village	ST 482407	TG	VII	
147	1799	axe	Glastonbury, Iron Age village	ST 482407	TG	VII	
148	1800	mould, mirror ?, fr	Meare, Iron Age village	ST 444422	SCM OS-AA-1/352	greisen	
149a	1801a	mould, socketed axe, fr	Stoke sub Hamdon, Ham Hill	ST 478173	SCM A..954	greisen	*
149b	1801b	mould, socketed axe, fr	Stoke sub Hamdon, Ham Hill	ST 478173	SCM A.955	greisen	*

Wiltshire

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1	1	mace, Maesmore, fr	Avebury, Windmill Hill	SU 086714	AKM L4202	VII	
2	2	axe, joining parts	Avebury, Windmill Hill	SU 086714	AKM L4203/L4216	VI	*
3	3	axe, fr	Avebury, West Kennet Avenue	SU 105695	AKM	I a	
4	4	b-a ?, fr	Avebury, NW of Long Stones	SU 088695	AKM	III	
5	6	axe ?, fr	Avebury, Windmill Hill	SU 086714	AKM L4205	slate	
6	8	axe, flake	Avebury, Windmill Hill	SU 086714	AKM L4206	XI	
7	9	axe, flake	Avebury, Windmill Hill	SU 086714	AKM L4207	VII	
8	10	axe, flake	Avebury, Windmill Hill	SU 086714	AKM L4208	VI	
9	11	axe, fr	Avebury, Windmill Hill	SU 086714	AKM L4209	VIII	
10	12	misc artefact, fr	Avebury, Windmill Hill	SU 086714	AKM L4210	XIII	
11	13	axe, fr	Avebury, West Kennet Avenue	SU 105695	AKM	VII	
12	14	axe, fr	Avebury, West Kennet Avenue	SU 105695	AKM	VII	
13	15	rock	Avebury, West Kennet Avenue	SU 105695	AKM	Java (Niedermendig)	
14	16	rock	Avebury, West Kennet Avenue	SU 105695	AKM	lava (Niedermendig)	
15	19	axe, flake	Avebury, Windmill Hill	SU 086714	AKM L4212	XI	
16	21	axe, flake	Avebury, Windmill Hill	SU 086714	AKM L4213	VI	
17	22	axe, flake	Avebury, Windmill Hill	SU 086714	AKM L4214	VI	
18	23	axe, flake	Avebury, Windmill Hill	SU 086714	AKM L4215	spotted slate	
19	25	see W1 2	-	-	-	-	*
20	26	pebble ?, pt	Avebury, Windmill Hill	SU 086714	AKM L4217	slate	
21	27	axe, flake	Avebury, Windmill Hill	SU 086714	AKM L4218	tuff	
22	28	rubber ?, fr	Avebury, Windmill Hill	SU 086714	AKM L4219	limestone	
23	29	flake	Avebury, Windmill Hill	SU 086714	AKM L4220	quartzite	
24	30	flake	Avebury, Windmill Hill	SU 086714	AKM L4221	chert	
25	32	axe, fr	Avebury, Windmill Hill	SU 086714	AKM L4223	xx	
26	33	axe, flake	Avebury, Windmill Hill	SU 086714	AKM L4224	VIII	
27	34	s-h adze, pt	Avebury, Windmill Hill	SU 086714	AKM L4225	dolerite	
28	35	axe	Avebury, Windmill Hill	SU 086714	AKM L4226	I a	
29	36	axe, fr	Avebury, Windmill Hill	SU 086714	AKM L4227	I	
30	38	axe, flake	Avebury, Windmill Hill	SU 086714	AKM L4229	VI	
31	39	axe, flake	Avebury, Windmill Hill	SU 086714	AKM L4230	VIII	
32	41	axe, fr	Avebury, Windmill Hill	SU 086714	AKM L4231	VII	
33	42	axe ?, fr	Avebury, Windmill Hill	SU 086714	AKM L4232	slate	
34	76	axe	Braydon	SU 0588	destroyed (ex BCM)	I	
35	77	axe	Westbury, The Ham	ST 863524	destroyed (ex BCM)	greenstone	
36	87	axe, fr	Avebury, Beckhampton	SU 095692	AKM	I	
37	102	misc artefact, fr	Avebury, within henge	SU 101701	AKW	palaeozoic sandstone (ns)	
38	108	axe, fr	Avebury, Foxhill	SU 073697	AKM	greenstone	
39	109	axe, fr	Avebury, Beckhampton	SU 095692	AKM	pyroxene granulite	
40	110	pebble	Avebury, West Field	SU 079697	AKW	greenstone	
41	136	axe, fr	Avebury, within henge	SU 101701	AKM	VI	
42	137	axe, fr	Avebury, Foxhill	SU 073697	AKM	III a	
43	139	axe, fr	Avebury, Windmill Hill	SU 086714	AKM L4237	VIII	
44	140	axe, fr	Avebury, Poxhill	SU 073697	AKW	I	
45	141	axe, fr	Avebury, Windmill Hill	SU 086714	AKM L4236	XI	
46	142	axe, fr	Avebury, Windmill Hill	SU 086714	AKM L4235	VIII	
47	143	axe, pt	Avebury, Windmill Hill	SU 086714	AKM	VII	
48	144	axe, fr	Winterbourne, Thorny Down	SU 203338	SSWM 188/46-1092	I	
49	172	axe, fr	Swindon?	SU 18?	SM	I	
50	173	axe	Liddington?	SU 2081?	SM	VI	
51	196	axe, fr	Marlborough, Barton Pm	SU 182690	DM 1924	I	
52	214	axe	Roundway, Roundway Down	SU 0165	PP	sandstone	
53	215	axe	Wilsford (S?), Wilsford Down	SU 1040?	PP	XIX	
54	216	axe	Wilsford (S), Rox Hill	SU 1238	PP	greenstone	
55	221	axe	Swindon (nr)	SU 18?	PP	I	
56	223	axe, flake	Avebury, barrow G27	SU 115686	DM	I a	
57	273	pounder	Ogbourne St Andrew, Rockley Down	SU 152732	DM	sarsen	
58	274	rubber	Ogbourne St Andrew, Rockley Down	SU 152732	DM	sarsen	
59	275	rock	Amesbury, Stonehenge Cursus	SU 1142	SSWM	sandstone (Cosheston Beds)	
60	276	rock	Amesbury, Stonehenge	SU 122422	SSWM	sandstone (Cosheston Beds)	
61	277	rock	Amesbury, Stonehenge, Altar Stone	SU 122422	SSWM	micaceous sandstone	
62	278	mace, proto-cushion	Winterbourne Stoke, barrow G13	SU 102419	DM 1463	greenstone	
63	280	hammer, light	Amesbury, barrow G54	SU 112428	DU 479	siliceous hornstone ? (ns)	
64	281	b-a, III	Upton Lovell, barrow G2a	ST 959428	DM 1405	greenstone ? (ns)	
65	282	miner's tool	Avebury, West Kennet	SU 1068	DM	greenstone	

N0.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
66	283	axe	Dinton, nr Grovely Wood, or Wyl-	SU 025350	DM 1421	VII	
67	284	axe	ve Avebury, S of Beckhampton	SU 0867	DM	IV	
68	285	axe	Bishopstrow	ST 8943	DM	gabbro	
69	286	axe	Keevil, Coople Church Field	ST 9157	DM	I a	
70	287	axe	Knook, nr Knook Castle	ST 9644	DM	andesite	
71	288	axe	North Newton, Hilcott	SU 115582	DM	sandstone	
72	289	axe	Norton Bavant, Scratchbury Camp	ST 912443	DM 1415	amphibole	
73	290	rubber ?	Winterbourne Monkton	SU 086722	DM 470-476	greenstone	
74	291	misc artefact	Collingbourne Ducis, barrow G10	SU 229515	DM	I	
75	292	b-a, IV (S)	Kilmington, barrow G1	SU 746354	DM 772	XVIII	
76	293	b-a, I	Durrington, barrow G67	SU 151432	DM 447	tourmaline granite (ns)	
77	294	b-a, IV	Wilsford (S), barrow G58	SU 117398	DM 663	greenstone	
78	295	b-a, III	Avebury, barrow on Windill Hill	SU 086714	DM 291	XII	
79	296	b-a, III	Codford St Peter, barrow G4	ST 979428	DM 774	dolerite	
80	297	b-a, V	Codford St Peter, barrow G5	ST 979428	DM 775	XIV	
81	298	b-a, V	Shrewton, barrow G27	SU 093441	DM 292	XII	
82	299	p-h, pt	Durrington, Durrington Wails	SU 150437	DM	dolerite	
83	301	hone ?	Upton Lovell, barrow G2a	ST 959428	DM	slate	
84	302	rubber	Upton Lovell, barrow G2a	ST 959428	DM	III a	
85	303	rubber	Upton Lovell, barrow G2a	ST 959428	DM	I	
86	304	b-a, III	Upton Lovell, barrow G2a	ST 959428	DM 1403	XVIII	
87	306	rock	Amesbury, Stonehenge	SU 122422	lost (ex JFS Stone)	rhyolite	
88	307	rock	Amesbury, Stonehenge	SU 122422	lost (ex JFS Stone)	calcareous ash	
89	308	rock	Amesbury, Stonehenge	SU 122422	lost (ex JFS Stone)	XIII	
90	309	rock	Amesbury, S of Stonehenge Cursus	SU 1142	SSWM	rhyolite	
91	310	rock	Amesbury, nr Stonehenge Cursus	SU 1142	SSWM	rhyolite	
92	311	rock	Amesbury, nr Stonehenge Cursus	SU 1142	SSWM	rhyolite	
93	312	rock	Amesbury, nr Stonehenge Cursus	SU 1142	SSWM	rhyolite	
94	313	rock	Amesbury, nr Stonehenge Cursus	SU 1142	SSWM	calcareous ash	
95	314	rock	Amesbury, nr Stonehenge Cursus	SU 1142	SSWM	rhyolite	
96	315	rock	Amesbury, nr Stonehenge Cursus	SU 1142	SSWM	rhyolite	
97	316	rock	Amesbury, nr Stonehenge Cursus	SU 1142	lost (ex JFS Stone)	chert (ns)	
98	317	axe, fr	Amesbury, 'Woodlands'	SU 152431	SSWM	VII	
99	368	s-h adze	Avebury, West Kennet	SU 110683	AKM	XIX	
100	369	axe, fr	Avebury, Big Penning	SU 113703	AKM	VI	
101	384	axe	Tisbury, Chicks Grove	ST 970301	SSWM 60/48-1093	I	
102	385	axe, fr	Wylve	SU 0037	SSWM 1085	VI	
103	386	axe, fr	Salisbury, London Ad	SU 150306	SSWM 1081	greenstone	
104	387	axe, pt	Allington, Boscombe Down East	SU 232372	SSWM 1091	gabbro	
105	388	mace, Thames pestle,	Amesbury (nr)	SU 1541?	ssww 1400	quartzite	
106	389	pt	Amesbury, Stonehenge	SU 122422	SSWM 4841	I a	
107	390	axe, fr	Amesbury, Stonehenge	SU 122422	SSWM 4840A	III	
108	391	misc artefact, fr	Amesbury, Stonehenge	SU 122422	SSWM 4840	XIII	
109	392	misc artefact, fr	Amesbury, Stonehenge	SU 122422	SSWM 4555A	XIII	
110	393	axe, fr	Amesbury, Stonehenge	SU 122422	SSWM 225	III	
111	394	misc artefact	Amesbury, Stonehenge	SU 122422	SSWM 423A	rhyolite	
112	395	axe, fr	Amesbury, Stonehenge	SU 122422	SSWM 138/37-1089A	I	
113	396	misc artefact, fr	Amesbury, Stonehenge	SU 122422	SSWM 1590T	rhyolite	
114	397	mist artefact	Amesbury, Stonehenge	SU 122422	SSWM 1900A	rhyolite	
115	398	a-h or b-a, fr	Tisbury, Castle Rings	ST 963283	SSWM 1300	XVIII	
116	399	b-a, IV (S)	North Tidworth	SU 2349	SSWM 1301	hornblende dolerite	
117	400	p-h, fr	Amesbury	SU 1541	SSWM 1084	quartzite	
118	401	axe, fr	Stockton, Stockton Earthworks	ST 972361	SSWM 1080	XIII	
119	402	axe, pt	Salisbury, East Harnham	SU 145290	SSWM 1082	III a	
120	403	s-h adze	Broad Chalke	SU 0425	SSWM 58/1935	greenstone	
121	404	axe	All Cannings, Tan Hill	SU 0864	SSWM 1089	quartzite	
122	405	axe	Salisbury, nr Old Sarum	SU 141325	SSWM 1088	IX	
123	406	axe, pt	'North Wiltshire'		SSWM 1087	quartzite	
124	409	s-h adze	Wylve, Bilbury Rings	SU 008361	SSWM 117/53-1404	quartzite	
125	410	s-h adze	Steeple Langford, nr Hanging La-	SU 012350	SSWM 117/53-1405	decomposed dolerite	
126	411	s-h adze, fr	ngford Camp			decomposed quartz dolerite	
127	412	axe, fr	wylve	ST 994356	SSWM 117/53	VI	
128	413	axe, fr	Teffont	ST 995350	SSWM 117/53	I	
129	414	axe, fr	Wilsford (S), nr Starveall	SU 121404	SSWM 117/53	I	
130	415	pounder ?	Wylve	SU 0037	SSWM 117/53	I	
131	416	axe	Dinton, Dinton Beeches	SU 006351	SSWM 117/53	greenstone	
132	433	axe	Liddington	SU 2081	SSWM 117/53	sandstone	
133	434	a-h, IIB	Wanborough, Downland Manor Pm	SU 230803	BM	XVIII	
134	442	rock	Ebbesbourne Wake, Fifield Down	SU 002256	pp	XIII (ns)	
135	443	rock	Amesbury, Stonehenge, hole A1	SU 122422	SSWM	XIII	
136	444	rock	Amesbury, Stonehenge, hole A1	SU 122422	SSWM	silicified rock	
137	445	rock	Aresbury, Stonehenge, hole A1	SU 122422	SSWM	sandstone (Cosheston Beds)	
138	446	rock	Amesbury, Stonehenge, hole A1	SU 122422	SSWM	sarsen	
139	447	rock	Amesbury, Stonehenge, hole A4	SU 122422	SSWM	XIII	
140	448	rock	Amesbury, Stonehenge, hole A4	SU 122422	SSWM	sarsen	
141	449	rock	Amesbury, Stonehenge, hole A4	SU 122422	SSWM	XIII	
142	450	rock	Amesbury, Stonehenge, hole A5	SU 122422	SSWM	sarsen	
143	451	rock	Amesbury, Stonehenge, hole A5	SU 122422	SSWM	sandstone (Cosheston Beds)	
144	452	rock	Amesbury, Stonehenge, hole A5	SU 122422	SSWM	sarsen	
145	453	rock	Amesbury, Stonehenge, hole A5	SU 122422	SSWM	sarsen	
146	454	rock	Amesbury, Stonehenge, hole A5	SU 122422	SSWM	XIII	
147	455	rock	Amesbury, Stonehenge, hole A5	SU 122422	SSWM	rhyolite	
148	456	rock	Amesbury, Stonehenge, hole A5	SU 122422	SSWM	sarsen	
149	457	rock	Amesbury, Stonehenge, hole A5	SU 122422	SSWM	XIII	
150	458	rock	Amesbury, Stonehenge, hole A7	SU 122422	SSWM	calcareous ash	
151	459	rock	Amesbury, Stonehenge, hole A7	SU 122422	SSWM	ferruginous sandstone	
152	460	rock	Amesbury, Stonehenge, hole A8	SU 122422	SSWM	XIII	
153	461	rock	Amesbury, Stonehenge, hole A8	SU 122422	SSWM	glaucanitic quartzite	
154	462	rock	Amesbury, Stonehenge, hole A10	SU 122422	SSWM	XIII	
155	463	rock	Amesbury, Stonehenge, hole A11	SU 122422	SSWM	rhyolite	
156	464	rock	Amesbury, Stonehenge, hole A11	SU 122422	SSWM	rhyolite	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
157	465	rock	Amesbury, Stonehenge, hole A11	SU 122422	SSWM	calcareous ash	
158	466	rock	Amesbury, Stonehenge, hole A11	SU 122422	SSWM	rhyolite	
159	467	rock	Amesbury, Stonehenge, hole A12	SU 122422	SSWM	rhyolite	
160	468	rock	Amesbury, Stonehenge, hole A15	SU 122422	SSWM	rhyolite	
161	469	rock	Amesbury, Stonehenge, hole A15	SU 112422	SSWM	calcareous ash	
162	470	rock	Amesbury, Stonehenge, hole A15	SU 122422	SSWM	calcareous ash	
163	471	rock	Amesbury, Stonehenge, hole A15	SU 122422	SSWM	rhyolite	
164	472	rock	Amesbury, Stonehenge, hole A16	SU 122422	SSWM	rhyolite	
165	473	rock	Amesbury, Stonehenge, hole A16	SU 122422	SSWM	glauconitic quartzite	
166	474	rock	Amesbury, Stonehenge, hole A17	SU 122422	SSWM	sarsen	
167	475	rock	Amesbury, Stonehenge, hole A17	SU 122422	SSWM	rhyolite	
168	476	rock	Amesbury, Stonehenge, hole A17	SU 122422	SSWM	calcareous ash	
169	477	rock	Amesbury, Stonehenge, hole A17	SU 122422	SSWM	calcareous ash	
170	478	rock	Amesbury, Stonehenge, hole A17	SU 122422	SSWM	XIII	
171	479	rock	Amesbury, Stonehenge, hole A21	SU 122422	SSWM	XIII	
172	480	rock	Amesbury, Stonehenge, hole A21	SU 122422	SSWM	sarsen	
173	481	rock	Amesbury, Stonehenge, hole A21	SU 122422	SSWM	rhyolite	
174	482	rock	Amesbury, Stonehenge, hole A21	SU 122422	SSWM	silicified rock	
175	483	rock	Amesbury, Stonehenge, hole A22	SU 122422	SSWM	rhyolite	
176	484	rock	Amesbury, Stonehenge, hole A22	SU 122422	SSWM	glauconitic quartzite	
177	405	rock	Amesbury, Stonehenge, hole A22	SU 122422	SSWM	rhyolite	
178	486	rock	Amesbury, Stonehenge, hole A22	SU 122422	SSWM	XIII	
179	487	rock	Amesbury, Stonehenge, stone-hole 30	SU 122422	SSWM	calcareous ash	
180	488	rock	Amesbury, Stonehenge, hole Z2	SU 122422	SSWM	ferruginous sandstone	
181	489	rock	Amesbury, Stonehenge, hole Z4	SU 122422	SSWM	calcareous ash	
182	490	rock	Amesbury, Stonehenge, hole Z6	SU 122422	SSWM	rhyolite	
183	491	rock	Amesbury, Stonehenge, hole Y5	SU 122422	SSWM	rhyolite	
184	492	rock	Amesbury, Stonehenge, hole Y6	SU 122422	SSWM	XIII	
185	493	rock	Amesbury, Stonehenge, hole Y13	SU 122422	SSWM	rhyolite	
186	494	rock	Winterbourne Monkton	SU 1072	SSWM 5/1917-18	slate	
187	533	p-h	Bulford	SU 169437	SSWM 24/49	sandstone	
188	543	axe, fr	Colerne, Bury Wood Camp	ST 818740	KS F 170	I a	
189	549	axe, fr	Idmiston, Boscombe Down	SU 191386	SSWM	I	
190	550	axe, fr	Monkton Parleigh, Hazelton	ST 819661	DM 8/57/294	greenstone	
191	551	pounder ?	Monkton Parleigh, Hazelton	ST 819661	DM 8/57/294	altered sandstone	
192	552	axe, pt	Biddestone	ST 8572	DM 8/57/294	XVI	
193	553	rubber ?	Box	ST 8268	DM 8/57/294	quartzite	
194	554	misc artefact ?, fr	Box, Hazelbury	ST 8368	DM 8/57/294	altered sandstone	
195	583	axe, fr	Wilsford (S)	SU 103418	SSWM	dolerite	
196	584	axe	Westbury, Station Rd	ST 870514	PP	XVI	
197	597	flake	Amesbury, nr Stonehenge	SU 1242	PP	limestone	
198	598	p-h	Great Bedwyn, Dodsdown	SU 273622	PP	quartzite	
199	648	axe, pt	Avebury, N of Silbury Hill	SU 100690	AshM 1955,96	III	
200	649	axe, fr	Avebury, West Kennet Avenue	SU 105695	AshM 1955,97	I	
201	650	p-h	nr Newton Toney	SU 2140?	PP	unidentified (ns)	
202	652	s-h adze, pt perf	Bulford, Beacon Hill	SU 2044	DM 1423	I	
203	653	s-h adze, pt	Tilshead, East Down	SU 0549	DM 1418	tuff	
204	654	axe	Avebury	SU 1070	DM	green-tone	
205	687	axe, pt	Mildenhall	SU 2069	DM 97,1978	III	
206	717	mace, Thames pestle	Wylve, Deptford	SU 0138	SSWM	I	
207	818	axe ?	Box	ST 823684	DM 49 1967	greenstone	
208	830	axe	Mildenhall	SU 2069	DM	I a	
209	837	axe	Durrington, Woodhenge	SU 151434	DM	I	
210	838	axe, flake	Durrington, Woodhenge	SU 151434	DM	greenstone	
211	845	axe	Broad Town, Broadtown Hill	SU 0977	BM(NH) E5887	nephrite	
212	847	axe, flake	Preshute, barrow G1a	SU 165691	DM	greenstone	
213	856	axe	Aldbourn	SU 2675	DM	I	
214	857	axe, fr	Avebury	SU 1070	DM 1907	VI I	
215	865	axe	Bradford-on-Avon	ST 8261	PP	greywacke	
216	868	axe, fr	Collingbourne Kingston, barrow G6	SU 215519	DM	greenstone	
217	871	axe	Aldbourn	SU 2675	DM	greenstone	
218	872	axe	Aldbourn	SU 2675	DM	greenstone	
219	873	axe	Aldbourn	SU 2675	DM 1416	IX	
220	874	axe, fr	Amesbury, Stonehenge	SU 122422	DM	I	
221	875	axe	Calne	ST 9970	DM	greenstone	
222	876	axe	Enford, from R, Avon	SU 1451	DM 1488	greenstone	
223	877	axe, Aegean	Calne	ST 9970	DM	emery	
224	878	axe, fr	Avebury, Windmill Hill	SU 086714	DM 1910	VII	
225	879	axe ?, flake	Amesbury, Stonehenge	SU 122422	DM	sandstone	
226	880	axe	'North Wiltshire'	DM	DM	micaceous sandstone	
227	881	axe, fr	Avebury, Windmill Hill	SU 086714	DM	I a	
228	882	flake	Avebury, Windmill Hill	SU 086714	DM	rhyolite	
229	883	axe	'Wiltshire'	DM	DM	VI	
230	884	pounder	'Wiltshire'	DM	DM	I a	
231	886	b-a, III(S), Pt	Salisbury, nr Old sarum	SU 1431	BWSM	XVIII	
232	888	axe	Monkton Parleigh	ST 8063	SCM	IV	
233	897	axe, pt	Potterne, Blackberry Lane	ST 997588	DM	tuff	
234	898	flake	Potterne, Blackberry Lane	ST 997588	DM	chalcedony	
235	900	axe ?, fr	Westbury	ST 8650	DM	chalk (ns)	
236	901	pebble	Wylve, Bapton	ST 996383	SSWM 89/54	altered sandstone	
237	944	axe	Teffont	ST 9931	DM 5/56/233	dolerite	
238	946	axe, fr	Amesbury, Stonehenge Avenue	SU 126425	SSWM	VI	
239	947	axe, fr	Amesbury, Stonehenge	SU 122422	SSWM	I	
240	959	rock	Amesbury, Stonehenge	SU 122422	SSWM	lava (Niedermendig)	
241	963	axe, fr	Liddington	SU 2081	AshM 1955,1079	greenstone	
242	964	axe, fr	Liddington	SU 2081	AshM 1955,107b	non-ophitic dolerite	
243	965	axe, fr	Liddington, Medbourne	SU 202812	AshM 1955,108a	XVI	
244	966	axe, fr	Liddington, Medbourne	SU 202812	AshW 1955,108b	I	
245	967	axe	Aldbourn	SU 2675	AshM 1955,116	greenstone	
246	968	a-h, Ib	Ogbourne St George	SU 2073	AshM 1955,555	XII	
247	969	p-h	'Wiltshire'		AshM 1955,556	hornblende andesite	

No.	Ser.	Implement	Locality	N.G.R	Accession	petrology	Note
248	977	p-h	West Lavington	SU 019540	DM	sandstone	
249	978	hone, perf	Avebury, Silbury Hill	SU 100685	DM	sandstone	
250	994	pounder ?	Avebury, Windmill Hill	SU 086714	AKM L4610	mica schist	
251	995	flake	Avebury, Windmill Hill	SU 086714	AKM L4233	micaceous sandstone	
252	996	axe, flake	Avebury, Windmill Hill	SU 086714	AKM L4234	VI	
253	997	misc artefact, fr	Avebury, Big Penning	SU 113703	AKM	calcareous sandstone	
254	998	pounder	Avebury, Big Penning	SU 113703	AKH	greenstone	
255	999	axe, flake	Avebury, Windmill Hill	SU 086714	AKM	VII	
256	1000	axe, flake	Avebury, Windmill Hill	SU 086714	AKM	VII	
257	1001	pebble fr	Avebury, Windmill Hill	SU 086714	AKM	altered sandstone	
258	1002	rubber, fr	Avebury, Windmill Hill	SU 086714	AKM	sandstone	
259	1003	pebble fr	Avebury, Windmill Hill	SU 086714	AKM	sandstone	
260	1004	axe, flake	Avebury, Windmill Hill	SU 086714	AKM	tuff	
261	1005	misc, pin polisher	Avebury, Windmill Hill	SU 086714	AKM	sandstone	
262	1006	pebble fr	Avebury, Windmill Hill	SU 066714	AKM	sandstone	
263	1007	pounder	Avebury, Windmill Hill	SU 086714	AKM	sandstone	
264	1008	disc	Avebury, Windmill Hill	SU 086714	AKW	glauconitic quartzite	
265	1009	rock	Avebury, Windmill Hill	SU 086714	AKM	tonalite	
266	1010	a-h, fr	Avebury, Windmill Hill	SU 086714	AKM	sandstone	
267	1011	pebble	Avebury, Windmill Hill	SU 086714	AKM	quartz mica schist	
268	1012	axe ?, fr	Avebury, Windmill Hill	SU 086714	AKM	ferruginous sandstone	
269	1013	rock	Avebury, West Field	SU 079697	AKM	tuff	
270	1014	axe, flake	Avebury, West Field	SU 079697	AKM	VII	
271	1015	pebble fr	Avebury, Young's Furlong	SU 111714	AKM	riebeckite rhyolite	
272	1016	axe, fr	Avebury, West Field	SU 079697	AKM	VII	
273	1017	axe	Winterbourne Monkton, East Pm	SU 104713	AKM	VI	
274	1018	axe, fr	Avebury, West Field	SU 079697	AKM	I a	
275	1019	hone, fr	Avebury, Windmill Hill	SU 086714	AKM	sandstone	
276	1020	flake	Avebury, West Field	SU 079697	AKM	sandstone	
277	1021	hone, fr	nr Avebury	SU 1070?	AKM	pumice	
278	1022	flake	Avebury, Beckhampton Field	SU 0968	AKM	sandstone	
279	1023	rock	nr Avebury	SU 1070?	AKM	carbonaceous sandstone	
280	1024	axe, fr	nr Avebury	SU 1070?	AKM	altered sedimentary rock	
281	1025	axe, fr	Avebury, Beckhampton Field	SU 0968	AKM	tuff	
282	1026	rubber	Avebury, West Field	SU 079687	AKM	ferruginous sandstone	
283	1027	flake	Avebury, West Field	SU 079697	AKM	sandstone	
284	1028	axe, fr	Avebury, West Field	SU 079697	AKM	VII	
285	1029	flake	Avebury, Windmill Hill	SU 086714	AKM	sandstone	
286	1030	rock	Avebury, West Field	SU 079697	AKM	tuff	
287	1031	rock	Avebury, West Field	SU 079697	AKM	lave (Niedermendig)	
288	1032	s-h adze ?, fr	nr Avebury	SU 1070?	AKM	sandstone	
289	1033	rock	Avebury, West Field	SU 079697	AKM	lava (Niedermendig)	
290	1034	rock	Avebury, West Field	SU 079697	AKM	lava (Niedermendig)	
291	1035	rock	Avebury, West Field	SU 079697	AKM	lava (Niedermendig)	
292	1036	rock	Avebury, West Field	SU 079697	AKM	alva (Niedermendig)	
293	1037	rock	Avebury, West Field	SU 079697	AKM	slag	
294	1038	rock	Avebury, Young's Furlong	SU 111714	AKM	lava (Niedermendig)	
295	1041	rock	Amesbury, barrow G61	SU 178424	PP	limestone	
296	1043	axe	'between Everleigh and Upavon'	SU 1754	PP	greenstone	
297	1052	axe, fr	Amesbury, E of Seven Barrows	SU 142426	SSWM 70/57	hornblende diorite	
298	1054	pebble	Bower Chslke, Middle Chase	SU 009213	PP	quartzite	
299	1059	b-a, fr	Collingbourne Kingston, barrow G6	SU 215519	DM	XIV	
300	1060	axe	Downton, Castle Meadow	SU 180211	SSWM	VIII	
301	1082	axe	Chippenham	ST 907732	BCM	greenstone	
302	1103	b-a, II	Wilsford (S), barrow G54	SU 115404	DM 12/64	XIII	
303	1107	axe	Winsley	ST 7960	DM 8/59/359	granophyre (Markfieldite)	
304	1108	hone, pt	'Wiltshire'	---	DM 8/59/363	sandstone	
305	1109	disc, perf	Aldboune, Aldbourne Common	SU 2573	DM 8/59/362	VI	
306	1110	axe	Aldboune	SU 2675	DM 8/59/367	I	
307	1121	axe, fr	Broad Chalke	SU 013266	SSWM 55/60	silicified slate	
308	1123	disc	Bishops Cannings	SU 045653	DM 6/60	greenstone	
309	1124	axe	Compton Bassett, The Freeth	SU 023726	DM 22/60	greenstone	
310	1129	axe	Avebury, Foxhill	SU 073697	AKM	greenstone	
311	1130	axe, fr	Avebury, Foxhill	SU 073697	AKM	greenstone	
311a	1131	s-h adze	Marlborough?	SU 1969?	AKM	tonalite	
312	1132	misc artefact, fr	East Kennet, long barrow G1	SU 116668	AKM	siltstone	
313	1133	misc artefact	Avebury, Big Penning	SU 113703	AKH	quartzite	
314	1134	pounder	Avebury, Big Penning	SU 113703	AKM	ferruginous sandstone	
315	1155	pebble	Avebury, within henge	SU 102698	AKM	decomposed greenstone	
316	1161	axe, fr	Coleme, Park Fm	ST 834731	PP	I	
317	1162	axe, fr	nr Avebury	SU 1070?	AKM	devitrified rhyolite	
318	1163	axe, pt	Alton, Golden Ball Hill	SU 125641	AKM	greenstone	
319	1164	hone ?, fr	Alton, Golden Ball Hill	SU 125641	AKM	albitised dolerite	
320	1166	a-h, Ia	?nr Salisbury	SU 13?	PP	sandstone	
321	1199	axe	Amesbury, 'from a barrow nr Stonehenge'	SU 1242?	SSWM 28/59	jadeite (ns)	
322	1210	rock	Avebury, Windmill Hill	SU 086714	AKM	sandstone	
323	1211	disc	Avebury, Windmill Hill	SU 086714	AKM	quartzite	
324	1212	pebble, utilised	Steeple Langford, Hanging Langford Camp	SU 013354	SSWH 151/61	sandstone	
325	1213	pounder	Wylve, Bilbury Rings	SU 010363	SSWM 150/61	greenstone	
326	1214	misc, plaque	Shrewton, barrow G23	SU 090442	SSWM 62/62	sandstone (ns)	
327	1219	misc artefact, fr	West Overton, barrow G6a	SU 119683	DM	sandstone	
328	1220	misc artefact, fr	West Overton, barrow G6b	SU 120684	DM	sandstone	
329	1221	rock	West Overton, barrow G6b	SU 120684	DM	sandstone	
330	1222	misc, spongefinger	West Overton, barrow G6b	SU 120684	DM	slate (ns)	
331	1223	misc, spongefinger	West Overton, barrow G6b	SU 120684	DM	slate	
332	1224	rock	West Overton, barrow G6b	SU 120694	DM	quartzite	
333	1225	rock	West Overton, barrow G6b	SU 120684	DM	Perruginous conglomerate	
334	1226	rock	West Overton, barrow G7	SU 119684	DM	Perruginous sandstone	
335	1227	misc, spongefingers	Winterbourne Stoke, barrow G54	SU 097424	DM 462	slate (ns)	
336	1244	(2) axe, fr	Bat-ford St Martin, Hamshill Ditches	SU 062332	PP	greenstone	

No.	Ser	Implement	Locality	N.G.R.	Accession	Petrology	Note
337	1255	misc, plaque, perf	Avebury, Avebury Down	SU 115696	PP	slaty siltstone	
338	1257	axe	Avebury, S of windmill Hill	SU 089697	PP	micaceous sandstone	
339	1266	axe	Berwick Bassett	SU 096739	DM 7.64	glauconitic sandstone	
340	1271	axe, fr	Corsley, Cley Hill	ST 838448	BCM	quartzite	
341	1280	axe	south Marston	SU 196867	DM	VI	
342	1307	axe, fr	Pewsey, nr Pewsey Hill Fm	SU 167569	PP	greenstone	
343	1315	rock	Bishops Cannings, long barrow G76	SU 067677	DM	quartzite	
344	1337	axe	Wilsford (S) Lake	SU 1339	BM 1895 7-23.16	decomposed dolerite	
345	1348	s-h adze	Teffont, nr Dinton Beeches	SU 003348	SSWM 78/1966	greenstone	
346	1352	axe, fr	Warminster, nr Dintley Wood	ST 895485	SSWM	IV	
347	1355	rock	Durrington, Durrington Walls	SU 150437	SSWM	olivine dolerite	
348	1356	rock	Durrington, Durrington Walls	SU 150437	SSWM	olivine dolerite	
349	1357	flake	Durrington, Durrington Walls	SU 150437	SSWM	glauconitic quartzite	
350	1379	axe, fr	Durrington, Durrington Walls	SU 150437	SSWM	ophitic greenstone	
351	1380	rock	Durrington, Durrington Walls	SU 150431	SSWM	quartzite	
352	1381		Durrington, Durrington Walls	SU 150437	SSWM	chalk	
353	1382	misc, axe polisher	Avebury, N of Long Stones	SU 090695	DM	calcareous quartzite	
354	1384	rock	Durrington, Durrington Walls	SU 150437	SSWM	quartzite (ns)	
355	1385	rock	Durrington, Durrington Walls	SU 150437	SSWM	quartzite (ns)	
356	1386	rock	Durrington, Durrington Walls	SU 150437	SSWM	quartzite (ns)	
357	1387	rock	Durrington, Durrington Walls	SU 150437	SSWM	quartzite (ns)	
358	1388	rock	Durrington, Durrington Walls	SU 150437	SSWM	conglomerate (ns)	
359	1389	rock	Durrington, Durrington Walls	SU 150437	SSWM	quartzite (ns)	
360	1393	quern, fr	Durrington, Packway Enclosure	SU 151442	SSWM	siliceous Corallian rock (ns)	
361	1394	pebble, utilised	Durrington, Packway Enclosure	SU 151442	SSWM	ferruginous sandstone	
362	1404	b-a, V (S)	Amesbury, 'from a barrow nr stonehenge'	SU 1242?	BM C.C.St.157	greenstone	
363	1411	axe, fr	Pewsey, Denny Sutton Hipend	SU 159578	PP	greenstone	
364	1418	axe	Fyfield, W of clatford park Fm	SU 164661	PP	I	
365	1426	axe, fr	Pewsey, White Hare Fm	SU 156580	PP	greenstone	
366	1430	axe, fr	Avebury, Beckhampton	SU 0969	DM 15 1970	greenstone	
367	1431	axe, fr	Avebury, Windmill Hill	SU 086714	DM 18.1970	VI	
368	1432	axe, fr	Avebury, Windmill Hill	SU 086714	DM 20.1970	xx	
369	1434	axe, fr	Swindon?	SU 18?	SM	I	
370	1435	p-h, pt	Great Wishford, Fbsbury Hill	SU 067354	SSWM 48/1965	quartzite	
371	1436	p-h, pt	Steeple Langford	SU 035369	SSWM 88/1955	quartzite	
372	1438	a-h, IIa	'from a barrow on Salisbury Plain'		BM 0.A.226	greenstone	
373	1448	axe	'Vale of Pewsey'		KS 1964.QS.349	IX	
374	1451	axe	Burcombe Without, nr Grovely Hill	SU 077327	SSWM 24/71	XVI	
375	1452	axe	Nettleton, Nettleton Scrubb	ST 824770	BCM	greenstone	
376	1453	axe	Nettleton, Nettleton Scrubb	ST 824770	BCM	III	
377	1457	axe	Winterslow, Middleton Rd	SU 240330	SSWM 115/70	greenstone	
378	1458	axe, fr	West Overton, Seven Barrows	SU 119680	AKM	VI	
379	1459	axe ?, weathered	Heywood, Wesbury Iron Works	ST 863523	DM 721	I	
380	1498	axe	Winterslow, nr Lopcombe Corner	SU 2332	SSWM 100/58	jadeite (ns)	
381	1511	axe, fr	Avebury, Windmill Hill	SU 086714	DM	quartzite	
382	1512	axe, fr	Avebury, Windmill Hill	SU 086714	DM	XVIII	
383	1554	b-a, I	Bulford, barrow G27	SU 193444	BM 1902.6-16,12	XVIII	
384	1583	misc artefact	Bishopstone (S)	SU 0725	PP	tuff	
385	1584	axe	South Wiltshire?	---	SSWM	sandstone	
386	1590	hones (2)	Bishops Cannings, Wansdyke	SU 066655	PP	chalcedony	*
387	1597	pounder	Winterbourne Monkton, Glory Ann Barn	SU 125725	PP	tourmaline (schorl)	
388	1605	axe, fr	Stockton, Stockton Earthworks	ST 972361	DM 1167	dolerite	
389	1606	pebble	Avebury, nr long barrow G22	SU 104676	DM 1906	diorite	*
390	1613	axe	New Sarum, Milford Manor Fm	SU 154299	SSWM 62/1973	tuff	
391	1617	rock	Avebury, Silbury Hill	SU 100685	see note	hornblende schist	*
392	1620	axe ?, fr	Winterbourne Monkton, Glory Ann Barn	SU 125725	PP	greenstone	
393	1623	axe	Bishops Cannings, N of West End Fm	SU 031642	PP	greenstone	
394	1624	axe	Lydiard Millicent, Lydiard Plain	SU 056861	DM	greenstone	
395	1652	axe	Sutton Mandeville, Harris's Hill	ST 984287	PP	unidentified (ns)	*
396	1661	axe, fr	Bowerchalke, Stone Down	ST 996196	CM	epidiorite	
397	1704	misc artefact, fr	Aldbourne, Southward Down	SU 286743	PP	sandstone	
398	1708	axe	Swindon, Wood St	SU 158837	SM	sandstone	
399	1709	axe, fr	Bishops Cannings, Bishops Cannings Down	SU 061667	DM 13,1976.i	altered epidiorite	
400	1710	axe, pt	Chiseldon, Burderop Down	SU 168764	DM 52,1976.i	tuff	
401	1711	axe, fr	Bromham, Mother Anthony's well	ST 998642	DM 78,1977.xi	altered epidiorite	
402	1724	axe, pt	Avebury	SU 1070	DM 1820	VI	
403	1725	p-h, pt	Aldbourne, Aldbourne Common	SU 264737	PP	greywacke	
404	1749	axe	Potterne	ST 998599	DM 56,1979	XIX	
405	1752	axe	Swindon, 'Swindon Hill or near'	SU 15847	SM	epidiorite	
406	1757	axe, pt, rewkd	Cherhill, W of New Covert	SU 022729	PP	basalt	
407	1758	axe, pt	Aldbourne, Woodsend	SU 226759	PP	altered gabbro	
408	1776	axe	Westbury	ST 865512	PP	unknown (section lost)	
409	1794	rock	Amesbury, Stonehenge	SU 122422	SSWM	sheared diabase	*
410	1797	axe, flake	Avebury, Windmill Hill	SU 086714	AKM L4611	VIII	
411	1802	misc artefact, pt	Amesbury, Stonehenge	SU 122422	SSWM	ryholitic tuff	*
412	1812	mould, socketed axe	Bulford, Nine Mile Water	SU 1844?	SSWM	keratophyre	*
413	1813	mould, socketed axe	Chiseldon, Burderop Down	SU 168764	DM 52,1976.11	syenite or coarse keratophyre	*
414	1828	axe, fr	Liddington Castle	SU 2079	SM	decomposed dolerite or spilite	

Notes

Avon

No	Note
4	Surface find, made of fine, hard, fossiliferous limestone, possibly from the Lower Lias Dr D A Roe suggests that it could be classified as 'ovate/ovoid/cordate and falls into the morphological range shared between the Acheulian and the Mousterian of Acheulian tradition

Berkshire

No	Note
4	revised identification by IGS (Sanderson 1970)
5	From excavation of Pit N. but without any associated pottery (Leeds 1927b. Pl V. fig 2e)
6	Unstratified find from a prehistoric ditch (Leeds 1927b. 62)
19 20 See above 21 See above 30 See above 31 See above	Revised identification by IGS (Sanderson 1970)
32	From excavation of Pit P. associated with sherds of grooved ware (Leeds 1934, Pl XXVIIIId)
42	Found during the 1953 excavations at hillfort The axe had subsequently been used as a pounder (Collins and Collins 1959. 55, fig 6 20)
60	Found during the 1948-9 excavations at Blewburton hillfort. in the upper (plough soil) fill of ditch II (Collins 1953. 48-9 fig 18 4)
62	Revised identification by IGS (Sanderson 1970)
70	bradley & Ellison 1975, 87
72	From a Late Bronze Age settlement. Proc Prehist Soc 46 (1980), 275

Cornwall

No	Note
357	All specimens attributed to C arn Brea in Parts 1 and 2 of the list of identifications are discussed in Mercer 1983, 153-60
358-85 See above	
394	Proc West Cornwall Fld Club, 2 (4) 1959 60, 177, fig 16 2
410	All specimens attributed to C arn Brea in Parts 1 and 2 of the list of identifications are discussed in Mercer 1983, 153-60
411 see above	
414	Like several other axes from Cornwall this example exhibits roughness of surface and irregularities of shape which may be wholly or partly due to weathering However excessive thickness between the blade and butt ends may suggest that this implement was unfinished

Devon

No	Note
132	Proc Devon Archaeol Soc 30, 1972 236, illustrated
134	Previously unpublished surface finds collected from the field containing the Neolithic settlement reported in Trans Devon Archaeol Soc 21 (1963). 2-31 Note revised petrological attributions. ibid 22, 1964, 31, and in part 1 of the list of identifications (above)
135 See above 136 See above 137 See above	
139	Associated with late Neolithic pottery: Proc Devon Archaeol Soc 33, 1975, 246-58

Dorset

No	Note
117	Wainwright 1979a, 164-5, fig 74
118 See above	
119 See above	
120	Found at the base of an Iron Age pit. Wainwright 1979b
123	Possibly the blade and butt ends of a single axe
124	DO 124 and other axes from Hambledon Hill (DO125-6. 133-40, 143,48) were recovered during excavations of the causewayed enclosure. associated cross-dykes and long barrow in 1974-7; interim report, Mercer 1980. DO 133 shown in situ in fig 12. For the jadeite axe (DO 135) see Jones et al 1977, 290, no 140: pl 22
125 See above	
126 See above	
127	Possibly the blade and butt ends of a single axe
133	DO 124 and other axes from Hambledon Hill (DO125-6. 133-40, 143 48) were recovered during excavations of the causewayed enclosure, associated cross-dykes and long barrow in 1974-7. interim report. Mercer 1980: DO 133 shown in situ in fig 12. For the jadeite axe (DO 135) see Jones et al 1977, 290, no 140, pl 22
134-48 See above	
148	Jones et al 1977, 289, no 88: pl 23
149	Mercer 1980, 48-57 (Stepleton Enclosure)
152	Specimens recovered from a series of Neolithic pits excavated by Mr Martin Green. Pit 5 DO 152, 153. Grooved Ware. worked flints. Pit 7 DO 154. boar's tusk. worked flints. Pit 29 DO 155. 156. Grooved ware Pit 11A DO 157. Grooved Ware. ox skull. antlers Pit 10 DO 158. Pengate Ware, fragment of polished flint axe The group III fragment (DO 156) comes from a polished artefact of indeterminate form. almost certainly not an axe; petrologically it is very similar to SO 22. described as a 'burnisher'
153-8 See above	
159	Proc Dorset Natur Hist Archaeol Soc 103. 1981, 117-19: ukkystrated
160	Nearly complete axe, 255mm long, found in plough soil 30m SW of the Stepleton Enclosure (see note 1392)

Gloucestershire

No	Note
120	Archaeologia, 19, 1821, 183 'hatchet of flint
125	Associates with plain Neolithic pottery in a causewayed enclosure, Glevensis. 16. 1982. 23

Somerset

No	Note
127	Recovered during excavations directed by Professor L Alcock, 1966-7
128 See above	
129	Somerset Archaeol Natur Hist 119. 1975, 70-1
130	Found beside the Sweet Track in the Somerset Levels. dated c 3200bc Antiquity, 48, 1974, 216-20. illustrated: Somerset Levels Papers 2 1976, 34-65. illustrated, Jones et al 1977, 290, no 100
134	Understood to have come from the ballast pit E of Dunster station, a fourth shaft-hole adze (SO 70) is attributed to the same find-spot
135 See above	
136 See above	
143	From the Somerset Levels, associated peat dated c 2300 bc (HAR-4130). Somerset Level Papers. 8. 1982. 20. 24
149	Originally thought to be fragments from the same mould, but slight morphological and petrological differences suggest that they come from two separate moulds

Wiltshire

No	Note
2	Joins with WI 19
19	Joins with WT 2.

No.	Note		
386	Pair of whetstones, nearly identical in shape and size from an animal burrow in the north face of Wansdyke They resemble some of the large whetstones found in pagan Saxon contexts (Antiq J. 55. 1975. 70-85) only one was sectioned as both appear to be made of the same rock	395 409	tip of Silburv Hill during excavations directed by Professor R J C Atkinson in 1970 Returned at owner's request before section out; rough decomposing surfaces suggest a origin pits 1982. 123
389	The object vaguely resembles a small axe but it is almost certainly a pebble One end had already been cut and bears the number '105', possibly relating to a section removed by H H Thomas The rock was previously identified as preselite or Group XIII (Antiq J.3.1923.252; Cunnington & Goddard 1934. 15; Keiller et al 1941. 65; Stone & Wallis 1951, 128)	411 412 413	From the fill of a grave dug into the secondary silt of the Stonehenge ditch (interim report. Antiquity, 52 1978. 235-6) The artifact is made on a tabular piece of rhyolitic tuff with the petrological characteristics of Group B as defined at Stonehenge (Pitts 1982. 116) Needham 1981, 12-15 Needham 1981, 10-12
391	Small fragment found in clean chalk rubble on the		

South-east England

Abbreviations

CCM	Carisbrooke Castle Museum	SAC	Sussex Archaeological Collections
HCMS	Hampshire County Museum Service	SNQ	Sussex Notes and Queries
PCM	Portsmouth City Museum and Art Gallery	SyAC	Surrey Archaeological Collections
PHFCAS	Proceedings of the Hampshire Field Club and Archaeological Society	THM	Tudor House Museum, Southampton
Russell-Cotes	Russell-Cotes Art Gallery and Museum, Bournemouth	WCM	Winchester City Museum

Hampshire

NO.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1	5	axe, fr	Willesley Warren, Overton	SU 5153	PP	tuff	*
2	329	axe, fr	willesley Warren, Overton	SU 5153	PP	VI	*
3	64	axe, fr	Dummer Clump, Dummer	SU 6046	HCMS	VIII	
4	65	axe, fr	E of Battledown, Wootton St Lawrence	SU 5950	HCMS	tuff	
5	66	axe	Greywell, W of Spring Head	SU 7149	HCMS	tuff	
6	67	axe	W of Down Fm, Odiham	SU 7250	HCMS	XIX	
7	68	axe, fr	N of Ellisfield Camp, Ellisfield	SU 6346	HCMS	olivine dolerite	
8	89	axe, Pr	W of Down Fm, Odiham	SU 7250	HCMS	III	
9	70	axe, fr	Popham	SU 5444	HCMS	I	
10	71	axe, fr	Wellocks Hill	SU 6552	HCMS	I	
11	72	axe	Down Grange, Basingstoke	SU 614498	HCMS	I	
12	73	axe	Buckskin Fm, Basingstoke	SU 609511	HCMS	epldiorite	
13	74	axe	S of Itchin Row	SU 561487	HCHS	I	*
14	117	axe	Is of Wight, Priory Bay	ZU 6391	PP	II a	*
15	122	axe	Swanick	SU 4909	WCM	mudstone	*
16	123	axe	Beaulieu	SU 3802	WCM	jadeite	*
17	124	axe, fr	Porickfields, Swanwick	SU 5010	WCM	III	*
18	125	mace	St Giles, Winchester	SU 4929	WCM (lost)	pottery ?	*
19	129	axe	Hill Head	SU 5403	WCM, Moggridge Coll	jadeite	*
20	175	axe	Lee on Solent	SU 5601	PP	VII	
21	300	axe	Breamore	SU 1618	Devizes, Brooke Coll	jadelte	*
22	329	axe, fr	Stokewood Road, Winton, Bournemouth	SZ 0994	Bury City Museum & Art Gallery	VI	
23	330	axe	Winton, Bournemouth	SZ 0994	HCMS	I	
24	331	axe	Boscombe, Bournemouth	SZ 1292	Druitt Coll, Christchurch	slate	
25	332	axe	Pokes Down, Bournemouth	SZ 1312	Druitt Coll, Christchurch	VI	
26	333	axe	Moordown, Bournemouth	SZ 0995	Druitt Coll, Christchurch	X	
27	338	axe	East Railway Station, Fordingbridge	SU 1414	HCMS	III a	
28	340	axe	Boxcombe	SZ 1292	PP	dolerite	
29	345	axe, fr	Kings Park, Bournemouth	SZ 118928	HCMS	I	
30	346	axe	Winkton/Barton, Christchurch	SZ 1693	HCMS	I	
31	347	axe	Kings Park, Bournemouth	SZ 073940	HCMS	VIII	
32	349	axe	Hengistbury Bead, Christchurch	SZ 1791	HCMS	limestone	
33	350	s-h adze	Wick Lane, Bournemouth	SZ 1592	HCMS	greynacke	
34	373	axe	Southbourne, Bournemouth	SZ 1591	HCMS	metamorphosed siltstone	*
35	379	axe	North Sway	SZ 2898	Salisbury, 2001	VII	
36	380	axe	Gorley Hill, Fordingbridge	SU 165115	Salisbury, 2002	XVIII	
37	381	p-h	Godshill, Fordingbridge	SU 1815	Salisbury, 121/46	quartzite	
38	382	p-h	Toyd Martin	SU 0923	Salisbury, 197/40	quartzite	
39	383	axe	Charford, Fordingbridge	SU 1719	Salisbury 2012	I	
40	419	axe	?Talbot Woods, Bournemouth	SZ 0794	BM 1940,7-1.589	XVI	
41	420	axe	Bournemouth	SZ 0994	BM 1940,7-1.591	XIII	
42	421	axe, fr	Redhill, Bournemouth	SZ 089836	BM 1940,7-1.608	VI	
43	424	axe	Richmond Park, Bournemouth	SZ 0993	BM 1908,4-25	epidiorite	
44	435	axe	Weyhill, Penton Grafton	SU 310489	Salisbury 14/49	epidiorite	*

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
45	436	adze	Tubkton, Bournemouth	SZ 1592	Russell Coates 28,89 (lost)	jadeite	*
46	437	b-a	42 Wirbourne Rd Bournemouth	SZ 0696	Russell Coates 29,13	dolerite	*
47	534	axe	Worthy Down, Worthy	SU 4835	WCM 1,1950	XIII	
48	535	axe	Southampton, St Michaels Square	SU 4132	THM	XVIII	*
49	536	axe	Shirley	SU 4014	THM	X	
50	537	axe	? Southampton	SU 4113	THM	epidiorite	*
51	538	b-a	Shirley	SU 4014	THM	XII	*
52	539	b-a	Hamble	SU 4807	THM	hornblende schist	
53	559	s-h adze	SE of Dummer	SU 6046	HCMS, Willis Co11	microgranite	
54	560	s-h adze	Long Sutton	SU 7447	HCMS	quartz dolerite	
55	589	adze	Old Shirley	SU 3914	THM Dale Co11	VI	
56	590	s-h adze	Titchfield	SU 5406	THM	micaceous sandstone	
57	591	ball, grooved	Pareham, Porchester	SU 6205	THM 604	uralitised gabbro	
58	609	b-a, fr	Ecchinswell, North Sydmonton	SU 5062	PP	quartz mica schist	*
59	616	b-a	Cobbetts Fm, Botley	SU 5113	PP	hornblende pyroxene diorite	*
60	644	knife, discoidal	Southbourne, Bournemouth	SZ 1591	Birmingham	chert	
61	742	axe	Stockbridge	SU 3635	WCM	VII	
62	743	axe	Stockbridge	SU 3635	WCM	epidiorite	
63	747	axe	Froxfield	SU 6726	HCMS	VII	
64	748	axe	Froxfield	SU 6726	HCMS	I	
65	749	axe	Bentworth	SU 6640	HCMS	biotite cordierite hornfels	
66	750	axe	Whitehill, Borden	SU 7934	HCMS	quartz glauconite limestone	
67	831	axe	Burley, Ringwood	SU 2203	PP	amphibolite	
68	848	a-h	Chale Green, Is of Wight	SZ 4880	CCM	quartz syenodiorite	
69	849	s-h adze	Carisbrooke, Is of Wight	SZ 4988	CCM	sandstone	
70	850	axe	Carisbrooke, Is of Wight	SZ 4988	CCM	I	
71	851	axe	Carisbrooke, Is of Wight	SZ 4988	CCM	I	
72	852	s-h adze	Basingstoke	SU 6157	Basingstoke, Willis	biotite cordierite andalusite	*
73	869	axe	Christchurch	SZ 1791	Mus	hornfels	
74	917	rubber	Salt Hill, East Meon	SU 6822	PP	decomposed dolerite	
75	933	axe, fr	Armsley, Godshill	SU 1616	PP	phyllite ?	
76	938	wedge	Portsmouth (N of harbour)	SU 6206	PP	epidiorite	
77	940	rubber	Butser Hill, Buriton	SU 7220	PP	xx	*
78	1044	rubber	Butser Hill, Buriton	SU 7220	PP	sandstone	*
79		rock	Hengistbury Head, Christchurch	SZ 1791	PP	sandstone	
80	1070	axe	North Waltham	SU 551464	HCMS	haematite	
81	1093	axe, fr	Lymington?	SZ 3296?	PP	epidiorite	
82	1096	axe	Linkenholt	SU 3658	PP	epidiorite	
83		mace ?	Medstead, N of Goatacre Fm	SU 640365	HCMS	I	*
84		hone, perf	South Warnborough	SU 715459	HCMS	hornblende schist	*
85		mace or s-h adze	Hayling Is Havant	SU 731024	PCM	greywacke	
86		p-h	N of Castle Fm, Wickham	SU 577107	PP	decomposed dolerite	
87		axe	Farnborough	SU 8754	HCMS	quartzite	
88		mace or p-h, unfin	Monxton	SU 315444	HCMS	greywacke	
89		axe	Braishfield	SU 3825	WCM	ophitic quartz dolerite	
90		axe	Itchen/Stoke and Ovington	SU 5632	WCM	I	
91		axe	Itchen/Stoke and Ovington	SU 5632	wcn	quartz andalusite mica schist	
92		axe	Kings Somborne	SU 372291	WCM	VI	
93		p-h, fr	Kings Somborne	SU 374293	WCM	epidiorite	
94		a-h	Ropley	SU 6431	WCM	quartzite	*
95		axe	Titchfield, Fareham	SU 5406	WCM	XIV	
96		adze	Wonston	SU 471360	WCM	epidiorite	*
97		mace	Unknown	-	WCM	epidotised tuff	
98		axe	Sherbourne St John	SU 625578	PP	XIX	
99		axe	Totland, Is of Wight	SZ 323873	CCM	VI	
100		axe	Mudeford, Christchurch	SZ 1992	HCMS	altered shale	
101		axe	Beaulieu	SU 3802	WCM	calcareous sandstone	*
102		p-h	Grayshott	SU 8735	Haslemere	garnet pyroxenite	
103		p-h, fr	Priory Fm, Selborne	SU 741325	HCMS	sandstone	*
104		s-h adze	St Giles Hill West, Winchester	SU 495288	WCM	hornblende lamprophyre	
105		axe	Ringwood	SU 1505	HCMS	epidiorite	
106		axe	?Talbot Woods, Bournemouth	SZ 0793	HCMS	IX	
107		axe	Whitchurch	SU 491458	HCMS	I	
108		axe	St Wary Bourne	SU 4250	HCMS	III	
109		b-a	Ellingham	SU 156067	Salisbury	hornblende pyroxene diorite	*
110		p-h, fr	Southampton	SU 4213	THM	greywacke	
111		a-h	Christchurch	SZ 190924	THM	quartzite	
112		axe, fr	Lymington	SZ 2692	HCMS	unknown	
113		mace or p-h, fr	Hengistbury Head,	SZ 1790	Birmingham	XVII	
114		p-h, fr	Southampton	SU 4213	Birmingham	sandstone	
115		mace	Shipton Bellinger	SU 234450	PP	greywacke	*
116		axe	Winchester	SU 4829	AshM	unknown	
117		mace	Hilsea, Portsmouth	SU 6503	BM	epidiorite	
118		p-h	Buckland Rings, Lymington	SZ 315967	WCM	quartz dolerite	*
119		s-h adze	Brockenhurst	SU 270050	HCMS	sandstone	
120		mace	Andover	SU 350469	PP	hornblende pyroxene diorite	
121		axe	Kings Somborne	SU 360279	HCMS	pyroxene diorite	*
122		axe, Pt-	Fordingbridge	SU 210139	HCMS	I	*
123		P-h	St Mary Bourne	SU 424495	HCMS	tuff	*
124		p-h	Lymington, nr Milton	SZ 251952	HCMS	sandstone	*
125		adze	Alton	SU 724394	HCMS	sandstone	*
126		axe	? Basingstoke	SU 6351?	unknown	tuff	*
127		axe	Locksheath, Fareham	SU 515075	PP	amphibolite	
128		axe	East Meon	SU 706192	PCM	nephrite	
129		axe	Havant	SU 687101	PCM	IV	
130		axe, fr	Exton	SU 609208	WCM	I	
131		axe, fr	Denmead (Hambleton)	SU 637130	WCM	VI	
132		axe	Kingsworthy	SU 487334	WCM	metamorphosed porphyry	*
133		axe	Ganier Rd, Winchester	SU 479283	PP	unknown	
134		axe, fr	Itchen Valley	SU 545322	PP	gabbro	
135		axe	Havant	SU 7109	PCM	epidiorite	
						I	

136	p-h	Shorwell, Buck's Fm	SZ 458820	Poole	quartzite sandstone	*
137	p-h	Knaphill, nr Christchurch	SZ 230980	Christchurch (RHM)	quartzite sandstone	*
138	p-h	Headley, Kingsclere	SU 519626	Newbury	quartzite sandstone	*
139	p-h	Lymington	SZ 237944	Chelmsford	quartzite sandstone	*
140	p-h	Portsmouth, Hilsea	SU 660037	BM	quartzite sandstone	*
141	p-h	Skipton Bellinger	SU 228450	PP	quartzite sandstone	*
142	p-h	Southampton Dock	SU 410115	TAM	quartzite sandstone	*

Kent

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1	189	axe	Sittingbourne	TQ 9183	Maidstone 24.1954	IX	*
2	250	flake	Greenhithe	TQ 5875	Wellcome Mus	olivine dolerite	*
3	708	axe	Richborough	TR 3280	D.O.E.	epidiorite	*
4	943	cupped pebble	Woolwich	TQ 4778	Maidstone	sandstone	*
5		axe	Borough Green	TQ 6057	Maidstone 21.1950	pyroxenite	
6		s-h adze, pt	Chatham (docks)	TQ 7670	Maidstone	dolerite	
7		axe	Chatham	TQ 7670	Maidstone	micaceous arkose	
8		s-h adze	Dartford Heath	TQ 5173	Maidstone 17.1927	greywacke	*
9		axe, fr	Downe	TQ 4361	Maidstone 18.1916	XVI	
10		axe	Eastling	TQ 967565	Maidstone 18.1949	diorite	
11		axe	East Peckham	TQ 6748	Maidstone 60.1952	epidiorite	*
12		p-h	Eccles	TQ 7260	Maidstone	sandstone	*
13		p-h	Polkestone	TR 2336	Maidstone	sandstone	
14		axe	Keston	TQ 4163	Maidstone 18.1916	I	
15		s-h adze	Kilndown	TQ 7035	Maidstone 42.1958	hornblende schist	
16		axe	Murston	TQ 9164	Maidstone 5.1907	I	
17		omitted	-	- 91	-	-	
18		axe	East Halling	TQ 705593	Maidstone 27.1956	VII	*
19		p-h	Ightham	TQ 5858	Maidstone	quartzite	
20		axe	Ightham	TQ 5756	Maidstone	sandstone (Ightham stone)	
21		cupped pebble	Ramsgate	TR 3865	Maidstone 1.9.1925	sands tone	*
22		a-h	Rarsgate	TR 3865	Maidstone 1.9.1925	greywacke	
23		s-h adze	Swalecliffe	TR 1367	Maidstone	XVIII	
24		s-h adze	Ulcombe	TQ 844468	Maidstone	microgranodiorite	
25		s-h adze	Farningham	TQ 554674	Maidstone 114.1963	quartz diorite	
26		omitted	-	-	-	-	
27		axe	Canterbury	TR 134592	Canterbury R.M. 7800	hornblende diorite	
28		s-h adze	Herne Bay	TR 158682	Canterbury 7793	dolerite	
29		axe	Canterbury	TR 166593	Canterbury 7791	greywacke	
30		axe	Dartford	TQ 5377	Dartford	greywacke	
31		omitted	-	-	-	-	
32		axe	Gravesend	TQ 6473	Gravesend	IX	
33		axe	Seal	TQ 5455	Tunbridge Wells A,11.505	glauconitic sandy limestone	
34		axe	Darenth	TQ 563714	PP	crystal tuff	*
35		axe	East Wickham	TQ 466769	Bexley	nephrite	*
36		axe	Broadstairs	TR 3967	Canterbury R.W. 6535	amphibolite	
37		axe	Keston	TQ 4164	Maidstone 77.1964	I	*
38		axe	Bexley	TQ 479758	PP	olivine basalt	*
39		axe	Wye	TR 063451	PP	hornfels	*
40		axe	Willesborough	TR 031415	PP	epidiorite	*
41		axe	Charing	TQ 916482	PP	diorite	*
42		axe	Herne Bay	TR 207689	PP	quartz dolerite	*
43		s-h adze	Southborough	TQ 578411	PP	sandstone	*
44		axe	Rolvenden	TQ 832313	Maidstone 15.1972	VI	
45		a-h	Ruckinge	TR 014346	Maidstone 42.1974	diorite	
46		axe	"Near Ashford"	TR 0142	CUM 23.1084.1	VI	
47		s-h adze	Aylesford	TQ 725583	PP	cordierite hornfels	*
48		s-h adze	Marden	TQ 716437	PP	quartz dolerite	*
49		axe	Bexley	TQ 497754	PP	VI	*
50		axe	Canterbury	TR 1557	BM 1901.2-6.1	jadeite	*
51		axe	Bouthton Mondhelsea	TQ 779495	PP	I	*
52		axe	Darenth	TQ 553723	PP	amphibolite	*
53		b-a	Canterbury	TR 1659	BM P 1976.7-1.14	olivine diorite	*
54		b-a, unfin	Chatham	TQ 7670	EM 1871.10-2.2	glauconitic sandstone	*
55		s-h adze, pt	Cliffe	TQ 738766	BM 1957.4-2.1	arkosic sandstone	*
56		axe	Greenwich	TQ 384780	BM Eng. 20	I	*
57		axe	Greenwich	TQ 384780	BM Eng. 19	VI	*
58		axe, fr	Elham	TR 196447	Maidstone 8.1980	ferruginous sandstone	*
59		axe	Hawley	TQ 548719	PP	I	*
60		p-h	Shipbourne	TQ 593517	Maidstone 30.1968	quartzite	*
61		axe	Charing	TQ 9549	PP	I	*
62		axe	Lenham Heath	TQ 913503	Maidstone 5-1982	I	*
63		p-h	Addington	TQ 655588	BM	quartzite or sandstone	*
64		p-h	Ash-cum-Ridley	TQ 617658	Dartford	quartzite or sandstone	*
65		p-h	Ash-cum-Ridley	TQ 600645	Dartford	quartzite or sandstone	*
66		p-h	Boughton Aluph, Buckwell	TR 032482	PP	quartzite or sandstone	*
67		p-h	Eynsford, Shelmove	TQ 505672	Dartford	quartzite or sandstone	*
68		p-h	Ightham	TQ 590560	BM	quartzite or sandstone	*
69		cupped pebble	Lower Halstow	TQ 887684	BM	quartzite or sandstone	*
70		p-h	Margate	TR 350705	BM	quartzite or sandstone	*
71		p-h	Stone	TQ 584743	Dartford	quartzite or sandstone	*

Sussex

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1	151	pestle	Southwick, Fishergate, West Rd	TQ 253052	Lewes, Curwen Coll	xx	
2	152	s-h adze	Hurstpierpoint, Newhouse Fm	TQ 278186	Lewes, Curwen Coll	quartz diorite	*
3	153	p-h	Hove, Coldstone Bottom, Hove Pk	TQ 287063	Lewes, Curwen Coll	sandstone	*
4	154	p-h	Horsham, Passell	TQ 1730	Lewes, Curwen Coll	sandstone	*
5	155	axe	Alfriston, Hobbs Hawth	TQ 493022	Lewes, Curwen Coll	I	
6	156	axe, fr	Crawley	TQ 267364	Lewes, Curwen Coll	XIII	
7	157	axe	Chichester Harbour	SU 838040	Lewes, Curwen Coll	schist	
8	158	hone	nr Eastbourne	TV 6199	Lewes, Curwen Coll	sandstone	
9	159	axe, fr	Patcham Downs	TQ 2709	Lewes, Curwen Coll	I	
10	160	axe	Crauley, Shelley Plain	TQ 248318	Lewes, Curwen Coll	III a	
11	161	axe, fr	Patcham Downs	TQ 285100	Lewes, Curwen Coll	II a	
12	162	axe, fr	Patcham Downs	TQ 285100	Lewes, Curwen Coll	tuff	
13	163	axe, fr	Rusper, Paygate	TQ 2334	unknown	quartzite	
14	164	axe, fr	Hove, Downs N of Dyke Rd	TQ 2706	Lewes, Curwen Coll	slate	
15	165	rubber	Rusper, Howe Pa, Paygate	TQ 228344	unknown	glauconitic sandstone	
16	166	rubber	Rusper, Paygate	TQ 228344	Lewes, Curwen Coll	rhyolite	
17	167	axe	Hove, West Lane	TQ 2708	Lewes Curwen Coll	schist	*
18	168	rubber	Rusper, Feygate	TQ 236344	unknown	sandstone	
19	226	b-a, fr	Harting, Beacon Hill	SU 806187	unknown	quartz dolerite	
20	249	axe	Chailey	TQ 3919	Lewes, Curwen Coll	epidiorite	
21	862	axe, fr	Seaford	TV 4899	unknown	flint	
22	993	rubber	Seaford, South Hill	TV 505980	Lewes 61/40	sandstone	
23		axe, fr	Newtimber, Saddlescombe	TQ 2711	Brighton R 2719/17	quartz dolerite	
24		axe, fr	Lewes, Railway St	TQ 418099	Brighton R 1165	I	
25		axe, fr	Palmer, Palmer Court Fm	TQ 356087	Brighton R 1139/3	xx	
26		axe, fr	Wivelsfield	TQ 324210	Brighton R 3333	tuff	
27		axe	Hastings	TQ 8110	Brighton N 22	shale	
28		axe	Brighton, Hollingbury Hill	TQ 322079	Brighton R 4991	diorite	
29		axe	Aldrington	TQ 2805	Brighton R 1934/3	hornfels	
30		axe	Ditchling, Foot of Downs	TQ 324150	Brighton R 3130	near I (epidiorite)	
31		axe	Edburton	TQ 2311	Brighton R 3616/4	grey volcanic rock	
32		b-a	Hove, Palmeira Ave	TQ 295050	Brighton R 5643/2	grey-brown volcanic rock	*
33		p-h, fr	Newtimber, Saddlescombe	TQ 275104	Brighton R 3816/5	epidiorite	*
34		b-a, fr	Brighton, Woodingdean	TQ 365055	Brighton R 4743	dolerite	*
35		b-a, fr	Twineham	TQ 248195	Brighton R 3742	XIII	*
36		p-h, fr	Friston, Exceat	TV 537984	Brighton R 4194/1	quartzite	*
37		s-h adze	Peacehaven, Old Telscombe Rd	TQ 403020	Brighton R 2610	sandstone	*
38		s-h adze, fr	Saddlescombe	TQ 2711	Brighton R 2719/48	lamprophyre	*
39		p-h	Bramber, Annington	TQ 185095	Brighton R 589	sandstone	*
40		hone, fr	Fulking	TQ 250105	Brighton R 3070/76	quartzite	*
41		hone	Hove, Palmeira Ave	TQ 295050	Brighton R 5643/3	sandstone	*
42		hone, fr	Peacehaven	TQ 410011	Brighton R 3194/154	sandstone	*
43		hone, fr	Plumpton, Plumpton Plain Site A	TQ 360120	Brighton R 3887/39a	schist	*
44		hone	Plumpton, Plumpton Plain Site A	TQ 360120	Brighton R 3887/39b	sandstone	*
45		hone, fr	Plumpton, Plumpton Plain Site B	TQ 360120	Brighton R 3867/107	sandstone	*
46		hone	Plumpton, Plumpton Plain Site B	TQ 360120	Brighton R 3867/109	sandstone	*
47		hone	Plumpton, Plumpton Plain Site B	TQ 360120	Brighton R 3887/110	sandstone	*
48		pestle	Pulborough, Nutbourne Common	TQ 075180	Worthing 1822	near VI	*
49		p-h, fr	Durrington, High Salvington	TQ 122070	Worthing 4424	sandstone	
50		exe	Durrington, High Salvington	TQ 122070	Worthing 4425	greenstone (W Devon or Cornwall)	
51		cupped pebble	Broadwater, Tenants Hill, Cissbury	TQ 1407	Worthing 1821	quartzite	
52		pestle, fr	Findon, Muntham Court	TQ 112094	Worthing MC 54 F 12	gritstone	*
53		axe	Angmering, Highdown Hill	TQ 087043	Worthing 3858	epidiorite	*
54		axe	Worthing, Goring-by-Sea	TQ 105035	Worthing 63/984	VI ?	*
55		axe	Horsham, Whitings Fm	TQ 192283	Worthing 60/367	epidiorite	
56		axe	Billingshurst, Rowner	TQ 072273	pp	epidiorite	
57		axe, fr	Seaford, Lullington Close	TV 497981	Worthing 67/143	VII	
58		hone, fr	Shoreham, Thunder-barrow	TQ 229085	Worthing 65/843	sandstone	*
59		axe	Ewhurst, Staplecross	TQ 778224	pp	VII	*
60		s-h adze	Firle, Preston Place	TQ 464078	Lewes 57.3.2.	greywacke	
61		axe	Buxted, Five Ash Down	TQ 480240	Lewes 60.27	metamorphosed basalt	
62		p-h	Eastbourne, Bedford Well Water Wks	TV 615998	Lewes 33.42	sandstone	
63		axe	Dallington	TQ 6519	Lewes 39.48	greywacke	*
64		axe, fr	Westmeston, Blackbrook Fm	TQ 341163	Lewes 28.7	serpentinite	*
65		p-h	Iford, Iford Fm	TQ 4007	Lewes 51.38	sandstone	
66		p-h	Glynde, Vicarage	TQ 458093	Lewes 61.44	sandstone	
67		s-h adze	Pycombe, Wolstonbury Caep	TQ 284138	Lewes 28.10	diorite	*
68		rubber	Pycombe, Wolstonbury Camp	TQ 284138	Lewes, Curwen Coll	mica schist	*
69		s-h adze, fr	Ringmer, Wellington House	TQ 430134	Lewes 44.21	sandstone	*
70		p-h	Washington, Rock Sandpit	TQ 128136	Lewes 34.2	sandstone	*
71		p-h	Laughton, Terrible Down	TQ 500160	Lewes 29.34	sandstone	
72		cupped pebble, fr	Jevington	TQ 5601	Lewes 27.80	sandstone	
73		s-h adze	nr Lewes	TQ 4210	Lewes, Jenkins Coll	sandstone	
74		axe	Eastbourne, Hampden Park	TQ 598017	Lewes 50.32.1	dolerite	*
75		axe	Eastbourne, Hempden Park	TQ 598017	Lewes 50.32.2	dolerite	*
76		axe	Hamsey, Offham	TQ 3912	Lewes 35.8	xx	
77		axe	Dallington, Padgham	TQ 654178	Lewes 38.23	I	*
78		s-h adze	Piddinghoe	TQ 427036	Lewes, Loan	sandstone	
79		axe	Newhaven	TQ 4400	Lewes, Jenkins Coll	VII	
80		axe	Bosham shore	SU 803045	Lewes 42.2	epidiorite	*
81		mace	nr Friston	TV 5598	Lewes 39.11.2	sandstone	
82		p-h	Litlington	TQ 5201	Lewes	sandstone	
83		p-h	Horsham	TQ 1830	Lewes, Curwen Coll	quartzite	*
84		axe	Salehurst, Robertsbridge	TQ 737236	Hastings S1650 926.1	dolerite	
85		axe	Westfield	TQ 813156	Hastings	XIX	
86		axe	nr Hastings	TQ 8110	Hastings, Stephenson Coll	epidiorite	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
87		axe	Hastings	TQ 8110	Hastings 914.82	IX	
88		axe	Hastings	TQ 8110	Hastings 956.41	tuff	
89		axe	Westfield, Beauport Home Fm	TQ 793140	Hastings 949.75	IX	
90		axe	Hastings, St Leonards	TQ 704103	Hastings LA 693	olivine basalt	
91		axe	Stoughton, Manor Fm	SU 801113	Chichester 1409	epidiorite	
92		s-h adze, fr	Earnley, Bracklesham Bay	SZ 818955	Chichester 265	epidiorite	
93		a-h, fr	Shoreham, Kingston Buci	TQ 2305	Lewes, Curwen Coll	unknown (plaster cast)	
94		s-h adze	Parham, Parham Down	TQ 0613	Lewes 66.20	XIX	*
95		b-a	Lindfield Rural	TQ 354262	Lewes 58.27	epidiorite	*
96		p-h	Coldwaltham, Hardham	TQ 035175	Lewes, Carraway Rice Coll	greywacke	
97		cupped pebble, fr	Seaford, South Hill	TV 505080	Lewes, Mortimore Co1	quartzite	
98		axe ?	Parham, Greatham	TQ 0415	1 61/40 Lewes, Garraway Rice Coll	sandstone	*
99		axe, fr	Newhaven, Castle Hill	TQ 445000	Lewes	sandstone	
100		axe, fr	Friston, Crowlink	TV 540076	Lewes 39.11.6	sandstone	
101		axe	Rudgwick	TQ 030335	Lewes 55.29.1	I	
102		axe	Forest Row	TQ 4234	Lewes 58.11	epidiorite	
103		s-h adze	Worthing, Durrington	TQ 128054	Worthing ex Lewes 48.29	dolerite	*
104		axe	Ilford, Ilford Fm	TQ 330064	Lewes 58.42	sandstone	
105		axe, fr	Eastdean, Crapham Hill	TV 580980	Lewes 56	VII	
106		axe, fr	Peacehaven, Arundel Ave	TQ 413013	Lewes 51.5	epidiorite	
107		axe	Stoughton	SU 8011	Lewes 31.15.61	greywacke	
108		axe	Westdean, Charleston Bottom	TQ 5300	Worthing 3662	altered slate or mica schist	
109		axe	Littlehampton, Toddington	TQ 034034	Worthing ex Littlehampton 290	epidiorite	
110		p-h	Littlehampton, Church St	TQ 0202	Lewes 39	quartzite	*
111		hone, fr	Sompting, Steep Down	TQ 170075	Worthing 67/323	sandstone	
112		axe	North Mundham, Runciton	SU 8802	Chichester 78	calcareous sandstone	
113		axe	Selsey	SZ 872940	Chichester 79	greywacke	
114		axe	Steyning	TQ 1711	Worthing ex Tunbridge Wells A.11.504	epidiorite	
115		b-a	Pulborough	TQ 0518	Worthing 67.301	grey-brown volcanic rock	*
116		axe, fr	Peacehaven, Arundel Rd	TQ 413013	Brighton R 5721/2	I	
117		hone	Pulborough, nr R Stor	TQ 060180	Worthing 67/324	sandstone	
118		exe	Battle	TQ 7416	Battle & District Hist Soc	unknown	
119		rubber	Slaugham, Warninglid, Bishops Wood	TQ 238259	PP	sandstone	*
120		rubber	Slaugham, Warninglid, Bishops Wood	TQ 238259	PP	sandstone (Hastings Beds)	*
121		hone or rubber	Lower Beeding, Fox Hills	TQ 210262	PP	sandstone	*
122		p-h, fr	Seaford, Seaford Head	TV 508979	Lewes	quartzite	*
123		axe	Peacehaven, Hodderm Ave	TQ 405013	unknown	dark green igneous rock (Devon or Cornwall)	
124		b-a, fr	Selsey	SZ 8693	unknown	dark fine grained rock	*
125		p-h, fr	Jevington	TQ 530020	unknown	quartzite	*
126		p-h, fr	Walberton	SU 9705	unknown	quartzite	*
127		p-h	Wadhurst, Moseham House	TQ 645311	unknown	sandstone	*
128		s-h adze	Eastdean, Gore Pm	TV 560987	Lewes	porphyritic felsite	*
129		axe, fr	Fittleworth, Mockbeggars	TQ 028216	unknown	ironstone	*
130		rubber, fr	Fittleworth, Bedham	TQ 014219	unknown	chert	*
131		axe	Willingdon (Willingdon Hill)	TQ 5700	Lewes 27.29	epidiorite	*
132		p-h	Rodmell	TQ 4105	unknown	quartzite	*
133		axe	Brighton (Hollingbury)	TQ 322079	unknown	VI	
134		s-h adze, fr, rewkd	Ferring, Highdown Hill	TQ 093044	unknown	sandstone	
135		axe	Bolney, Bee House	TQ 242242	PP	ironstone	
136		p-h	Worthing, Ten Acres	TQ 161032	Worthing 4110	quartzite	*
137		p-h ?	Worthing	TQ 1302	unknown	flint ?	*
138		p-h, fr	nr Alceston	TQ 5005	unknown	quartzite	*
139		mace ?	Jevington, Filching	TQ 570030	Destroyed in the War	Igneous	*
140		axe	Dallington, Padgham	TQ 654178	unknown	schist	*
141		axe	Hailsham, Gassons Field	TQ 610074	unknown	VII ?	*
142		axe	West Dean	SU 835124	Chichester	epidiorite	*
143		axe, fr	Angmering, Lee Fm	TQ 077106	PP	epidiorite	
144		s-h adze or p-h, fr	Wiston, Brownhill nr Ashington	TQ 145160	Worthing	quartzite	
145		s-h adze or p-h, fr	Madehurst, nr Barkhale Camp	SU 978124	PP	quartzite	
146		cupped pebble	Eastbourne	TV 6100	Lewes, Curwen Coll	sandstone	
147		cupped pebble	Eastbourne	TV 6199	Lewes, Curwen Coll	sandstone	
148		axe, fr	Alfriston	TQ 5103	Lewes, Garraway Rice coll	spotted slate	
149		axe	Yapton	SU 980038	Chichester 89/75	kyanite	
150		axe	Eastbourne, King's Drive	TQ 6000	Lewes 66/33	dolerite	
151		b-a ?, fr	Alfriston	TQ 5103	Lewes, Garraway Rice coll	sandstone	
152		hone	Fulking	TQ 2411	Lewes	spotted slate	
153		axe, fr	Aldingbourne	SU 923050	Inst of Archaeol, London	gabbro	*
154		axe	Findon ?	TQ 1109?	Hastings	schist	
155		axe	Rudgwick	TQ 085342	Hastings	VI	
156		b-a, fr	East Blatchington, Bishopstone	TQ 468000	Inst of Archaeol, London	diorite	*
157		b-a	Newhaven	TQ 4401	Hastings	epidiorite	
158		axe	Mountfield	TQ 744202	PP	VI	
159		axe	Alfriston	TQ 5103	BM 1853.4-12.3	diorite	
160		axe	Bexhill	TQ 7407	BM 1927.3-7.1	epidiorite	
161		axe	Henfield	TQ 2116	BM 1926.2-12.1	IV	
162		mace or p-h, fr	Eartham	SU 3309	BM Christie 95-67	greywacke	
163		b-a	Pulborough	TQ 0418	BM 1959.2.11.1		
164		mace or p-h ?	Seaford	TV 4830	BM Christie Eng 13	diorite	
165		axe	Battle, Telham	TQ 7614	BM 1902.9-4.11		
166		axe, fr	East Dean	SU 9013	BM 1358.5-6.3245	diorite	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
167		axe, Pr	Alciston	TQ 484059	PP	sandstone	
166		axe, Pr	Eastbourne (Bullock Down)	TV 584968	PP	I	
169		axe	Eastbourne (Bullock Down)	TV 588959	PP	greywacke	
170		axe	Eastbourne (Bullock Down)	TV 587909	PP	epidiorite	
171		axe, Pr	Eastbourne (Bullock Down)	TV 592963	Inst of Archaeol, London	sandstone	*
172		axe	Walderton	SU 790106	Chichester 5033	cordierite andalusite hornfels	*
173		pestle	Iford	TQ 3805	PP	coarse tuff	
174		axe	Iford Hill	TQ 3906	PP	metamudstone	
175		axe, fr	Iford Hill	TQ 3906	PP	sheared epidiorite	
176		rubber or hammerstone	Iford	TQ 3805	PP	coarse sandstone	
177		axe	Eastbourne, Beachy Head	TV 5796	Royal Ontario Mus 92 9 x 80,1	slate	
178		s-h adze	Newhaven	TQ 4400	Royal Ontario Mus 92 7 x 52,53	XIII	
179		axe	Eastbourne, Beachy Head	TV 5796	Royal Ontario Mus 92 7 x 80,2	VI	
180		axe	Eastbourne, Willingdon Hill	TQ 5702		fine grained greywacke	
181		b-a, fr	Sussex Downs		Buxton 2000	quartzite	
182		axe	Hastings	TQ 8009	Norwich 83,24	unknown	
183		axe	Eastbourne, Hampden Park	TQ 6002	PP	epidiorite	*
184		p-h	Brighton	TQ 3205	Brighton	quartzite or sandstone	*
185		p-h	Eastbourne, Verdley Fm	SU 901252	Unknown	quartzite or sandstone	*
186		p-h	Fernhurst	SU 890286	Unknown	quartzite or sandstone	*
187		p-h	Fernhurst, Lynchmere Fm	SU 8927	Unknown	quartzite or sandstone	*
188		p-h	Fittleworth, Bognor Common	TQ 012213	Unknown	quartzite or sandstone	*
189		p-h	Lurgashall, Blackdown area	SU 9230	Haslemere	quartzite or sandstone	*
190		p-h	Lurgashall, Blackdown area	SU 9230	Haslemere	quartzite or sandstone	*
191		p-h	Lurgashall, Blackdown area	SU 9230	Unknown	quartzite or sandstone	*
192		p-h	Lurgashall, Blackdown area	SU 9230	Haslemere	quartzite or sandstone	*
193		p-h	Seaford	TV 5099	BM	quartzite or sandstone	*
194		cupped pebble	Seaford, South Hill	TV 5198	Lewes, Mortimore Col	quartzite or sandstone	*
195		axe	Iford Hill	TQ 3906	PP	near I	
196		b-a, fr	Icklesham	TQ 879166	Hastings	feldspathic sandstone	

Surrey

No	Ser,	Implement	Locality	N.G.R.	Accession	Petrology	Note
1	243	axe	Farnham, Badshot Lea	SU 868485	PP	greywacke	*
2	244	axe	Frensham, Batt's Corner	SU 821411	PP	VI	*
3	686	a-h	Ripley, Papercourt Fm gravel pit	TQ 036564	Guildford G6022	quartz dolerite	*
4	1172	axe	Egham, Bell Weir Lock	TQ 019720	Reading 7,57	VI	*
5		s-h adze	Chipstead	TQ 2856	Guildford AG113	greywacke	*
6		p-h	Milton, garden in Westcott	TQ 1448	Guildford S7652	quartzite	*
7		mace	Weybridge, river bed nr Wey Bridge	TQ 069647	Weybridge C.II.6	altered basalt	*
8		a-h	Weybridge, river bed nr Wey Bridge	TQ 069647	Weybridge C.II.1	dolerite	*
9		b-a	Chertsey-Addlestone	TQ 0464	Charterhouse 501-195	XII	*
10		adze	Guildford, garden Quarry Hill	SU 997492	Salisbury 186/46 210	unknown (section lost)	
11		axe	Hambleton	SU 9638	Charterhouse 386-195	IX	
12		axe	Busbridge, Munstead	SU 9742	Charterhouse 384-195	slate	
13		axe	Elstead (Britty Hill)	SU 904453	Charterhouse 385-195	IX	
14		a-h	West Surrey		Charterhouse 429-195	greywacke	
15		axe	Kew Gardens	TQ 192773	Taken to America	dolerite	*
16		p-h	Wrecclesham nr Farnham	SU 828453	Guildford S,7651	quartzite	*
17		mace	Oatlands Fm, Weybridge	TQ 078656	Guildford S,7666	turf	
18		b-a	Kingston, R Thames	TQ 177694	Weston-Super-Mare R7	sandstone	
19		axe	Windlesham, Lightwater	SU 9262		tuff	*
20		axe	Merton	TQ 2569	Guildford	IX	*
21		p-h	Titsey, nr Roman Villa, Titsey Park	TQ 405545	Guildford S,7653	greywacke	
22		p-h	Great Bookham, Ranmore Common	TQ 1451	Guildford S,3553	quartz porphyrite or microdiorite	*
23		axe	Thorpe	TQ 0268	Haslemere 58084	tuff	*
24		p-h	Elstead, Hankley Common	SU 884430	Charterhouse	quartzite	*
25		axe	Kingston	TQ 1869	PP	unknown (section lost)	*
26		axe	Puttenham, Shoelands ?	SU 914477	Guildford G G,792	I	*
27		a-h	Limpsfield	TQ 4053	Guildford AS,814	epidiorite	*
28		axe	Kingston	TQ 1869	PP	unknown (section lost)	*
29		axe	N of Haslemere	SU 9133?	Haslemere 199	I	*
30		p-h	Hambleton, Hydon Heath	SU 978394	Haslemere	silicified sandstone	*
31		axe	Weybridges, R Wey, The Ford	TQ 069647	Weybridge C.II.2	epidiorite	*
32		a-h	Weybridge	TQ 0764?	Weybridge C.II.1	olivine camptonite	*
33		axe	Weybridge, R Wey, The Ford	TQ 069647	Weybridge C.II.3	quartz dolerite	
34		axe	Hersham	TQ 1164	Weybridge C.II.7	XIII	
35		axe	Pyrford, R Wey	TQ 0457	Weybridge C.II.4	hornblende microdiorite	*
36		axe	Walton-on-Thames	TQ 093665	Weybridge C.II.5	I	*
37		p-h	Chertsey	TQ 057650	Weybridge C.II.9	greywacke	
38		p-h	Weybridge, R Thames	TQ 08667	Weybridge C.II,8	quartzite	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
39		axe	Frensham	SU 8441	Farnham (Edwards Col 1.)	unknown (section lost)	
40		axe	R Thames, Syon Reach	TQ 1776	Kingston 771	fossiliferous limestone	
41		axe	Kingston, R Thames	TQ 1869	Kingston 722	I	*
42		axe	Kingston	TQ 192693	Kingston 1340	epidiorite	
43		axe	Cranleigh	TQ 0539	Kingston 1126 (Finny Coll.)	basalt	*
44		axe	Kingston, R Thames	TQ 1869	Kingston 726 (Roots Coll.)	I	*
45		b-a	Kingston, R Thames	TQ 1869	Kingston 735 (Roots Coll.)	dolerite	*
46		b-a	Kingston, R Thames	TQ 1869	Kingston 842 (Finny Coll.)	epidiorite	*
47		s-h adze	Hambledon	SU 972397	PP	micaceous sandstone	
48		axe	Hambledon	SU 972397	PP	I	*
49		axe	Ashtead, Stag Leys Estate	TQ 182572	PP		*
50		axe	Ashtead, Stag Leys Estate	TQ 182572	PP	unknown (section lost)	*
51		axe	Ashtead, Stag Leys Estate	TQ 182572	PP	unknown (section lost)	*
52		adze	Godalming	SU 9743	Godalming	tuff	*
53		axe	Albury or Parley Heath	TQ 0547	Guildford	unknown (section lost)	
54		axe	R Thames, between Hampton and Laleham	-	Uxbridge	I a	
55		axe	Kingston, R Thames	TQ 1769	Kingston 839	I	*
56		axe	Kingston, R Thames	TQ 1769	Kingston 12	VI	*
57		mace	Kingston R Thames	TQ 1769	Kingston 1119	silicified sandstone	*
58		axe	Ham, ballast pit	TQ 1672	PP	unknown (section lost)	
59		axe	R Thames	-	Salisbury E.T.S. 19	epidiorite	
60		p-h	Peaslake	TQ 08447	PP	quartzite	
61		s-h adze	Ash	SU 8950	Guildford AG. 815	greywacke	
62		axe	Woking, Hook Heath	SU 9857	Guildford S.8726	epidiorite	
63		axe	Surrey ?	-	Guildford S.8728	IV	*
64		axe, fr	Albury, Weston Wood	TQ 453485	W.W.64	I	
65		axe	Kew	TQ 18777	Tottenham H917	unknown (section lost)	
66		axe	Farnham	SU 84467	Farnham A979, 2993	epidiorite	
67		axe	Abinger, Fulvens Pm	TQ 102463	Guildford AG.329	epidiorite	
68		adze	Lingfield, Old Vicarage	TQ 389438	Guildford AG.235	olivine basalt	
69		adze	Worpleston	SU 9753	Guildford AG.601	xx	
70		axe	Burstow, S Nutfield	TQ 311474	PP	IV	*
71		s-h adze	Putney	TQ 2475	Kingston 998a (Finny Coll.)	greywacke	
72		b-a	Putney	TQ 2475	Kingston 9986, CD8 (Finny Coll.)	dolerite	
73		mace	Kingston	TQ 181693	Kingston 2035,CD5	hornfelsed porphyry	*
74		axe, fr	Building site, N Surrey	-	Kingston	VII	
75		axe	Weybridge	TQ 0864	Weybridge 359.1967	I	
76		a-h	Farnham	SU 8545	BM Sturge Coll	greywacke	
77		axe	Knap Hill	SU 9759	BM	amphibolite	
78		mould, socketed axe	Egham	TQ 016715	Guildford AS 680	quartz trachyte	*
79		axe	Runnymede	TQ 018718	BM ERB.78.A4(2)	tuff	*
80		axe	Runnymede Bridge	TQ 018718	BM ERB.78.A4(3)	biotite amphibolite	*
81		axe	Runnymede Bridge	TQ 01718	BM ERB.80.A10.548(5)	unknown (section lost)	*
82		axe	Parley Heath	TQ 0545	BM 53.4-19.6	nephrite	
83		axe, fr	Parley Heath	TQ 10545	BM 53.4-19.5	VI	
84		axe	nr Teddington Lock	TQ 1671	PP	epidiorite	
85		axe	nr Teddington Lock	TQ 1671	PP	greywacke	
86		a-h	South Croydon	TQ 321636	Croydon Natur Hist S-0C	biotite olivine gabbro	*
87		axe	Battersea	TQ 2876	IGS	hornblende granodiorite	*
88		axe	Chertsey	TQ 0466	IGS	VII	*
89		axe	Purley	TQ 3161	IGS	jadeite	*
90		axe	Wimbledon Common	TQ 237733	IGS	pyroxenite	*
91		a-h	Thursley	SU 9039	IGS	altered trachyte	
92		p-h	Wotton Common	TQ 135440	Guildford	quartzite or sandstone	
93		p-h	Shalford, Peasmarsh	SU 992460	Unknown	quartzite or sandstone	*
94		p-h	Reigate	TQ 280500	Birmingham	quartzite or sandstone	*
95		p-h	Normandy	SU 930520	BM	quartzite or sandstone	*
96		p-h	Merstham	TQ 300530	Unknown	quartzite or sandstone	*
97		p-h	Haslemere, Stroatley	SU 890339	Haslemere	quartzite or sandstone	*
98		p-h	Farnham, Sewage Pm	SU 851479	BM	quartzite or sandstone	*
99		p-h	Farnham, Bourne Mill	SU 850475	BM	quartzite or sandstone	*
100		p-h	Farnham, Alma Nursery	SU 845475	PP	quartzite or sandstone	*
101		p-h	Chiddingfold	SU 960355	Unknown	quartzite or sandstone	*
102		cupped pebble	Chiddingfold, Blackdown	SU 933322	Unknown	quartzite or sandstone	*
103		p-h	Charlwood, Pagewood Fm	TQ 232414	Beckensall/Hicks Co1	quartzite or sandstone	*
104		p-h	Albury, Blackheath	TQ 050460	CUM	quartzite or sandstone	*

Notes

Hampshire

No	Note
1	Surface find from within a prolific flint-working site Proc Prehist Soc 1 (1935) 154
2 See above	
13	PHFCAS 9 (1920-4) 385
14	Proc I of Wight NH and Arch Soc 3 (10) (1941), 267
16	Campbell Smith 1963. 159-60. 1965. 29
17	Antiq J 9 (1929), 377
19	Campbell Smith 1963. 160
21	Evans 1897. 107 Devizes Mus Cat (1934). 12. Campbell Smith 1963, 160
35	Wiltshire Archaeol Mag 49 (1941) 360
44	Found on the site of a Roman villa
45	Campbell Smith 1963, 71
46	Roe 1966. 234
48	PHFCAS 17 (1949-52) 55
51	Roe 1966. 234
52 See above	
58	ibid 214. 234
59	Antiq J 16 (1936). 96. Roe 1966. 234
72	PHFCAS 18 (1953-4) 61
77	Surface find from amongst Mesolithic flints
78 See above	
83	Surface find among Mesolithic and Neolithic flints Curtis Museum. Alton. Report 1961
84 See above	
94	Used as a doorstep at Ropley
95	Campbell Smith 1963. 160
101	ibid 159-60 1965 30
103	Found amongst flint road metalling
109	Salisbury Museum Report 1956 15. Roe 1966. 234
115	Found with a human skeleton, an antler pick and two similar stones during excavation of a reservoir south of Shipton Bollinger in 1912
118	PHFCAS 13 (1937-18) 135. 152 Found during excavation of Buck Rings hillfort behind the rampart near a Neolithic hearth
121	IGS enq 2375
122	IGS enq 2351 Found during excavation of a Romano British enclosure (Amberswood)
123	IGS enq 2352 2354 2353. 2355
123 See above	
125 See above	
126 See above	
132	Found during excavation of an Iron Age/Romano British site at Woodham Farm
136	Wymer 1977 111. 110 116. 117. 118
137 See above	
138 See above	
139 See above	
140 See above	
141	Salisbury Museum Report 1957. Wymer 1977. 121
142	Rankine 1949 70. H And M E Godwin, New Phytologist 39 no 3 (Aug 1940); Wymer 1977. 121 Found in submerged peat with associated Mesolithic material

Kent

No	Note
1	Keiller et al 1941. 64. Archaeol Cant 68 (1954) 209
2	Stone and Wallis 1951. 145
3	Stone and Wallis 1951 158

No	Note
4	Evens et al 1962. 261
8	Originally identified as Group XV Archaeol Cant 79 (1964) 224 5
12	Wymer 1977. 144
13	Archaeol News Letter 4 (1951) 51, Wymer 1977. 149
19	ibid Wymer 1977. 152
22	Originally identified as Group XIX Archaeol Cant 79 (1964) 224 5
34	Arch Cant 73 (1959) 209
35	ibid. 210
37	ibid 66 (2953) 161 2
38	ibid 73 (1959) 210
39	ibid 81 (1966) liv
41	ibid 83 (1968) 262
42	ibid 84 (1969) 259
43	ibid. 260
47	ibid 93 (1977) 207-8
48	ibid 94 (1978) 266
49	ibid 73 (1959) 209 95 (1979) 294-5
50	Campbell Smith 1963. 161
51	Kent Archaeol Rev 63 (1981) 67 8
52	ibid 65 (1981) 102 3 Found during the removal of top soil before gravel extraction adjacent to excavation of a Mesolithic - Early Neolithic site carried out by Mr B J Philp and the Kent Archaeol Research, Unit This site was a lake filled with peat and peat still adhered to one surface of the axe (Archaeol Excavations 1975 (HMSO for DOF 1976))
54	Archaeol Cant 45 (19331) 181, Roe 1966 234
56	Adkins and Jackson 1978 no 49. Stanley 1976. 4
57	ibid no 277. Stanley 1976. 6
59	Found in a field adjacent to motorway and thus possibly moved for some distance
60	Archaeol Cant 83 (1968) 265. Wymer 1977. 157
61	ibid 97 (1981) Found adjacent to a farm track at Wittersham (TQ 911275), but according to finder probably came in a load of hard-core from Charing
63	Wymer 1977 143. G W Dimbleby. Grand Palvnologica (1963) 4(1). 140-8
64	Wymer 1977 144
65	ibid
66	ibid 145
67	ibid 149
68	ibid 152
69	Proc Prehist Soc East Anglia 5 (1927) 217 23. Wymer 1977 153
70	Wymer 1977. 154
71	ibid 158

Sussex

No	Note
1	SAC (1928) 89. 72 (1931) 51
2	ibid 83 72 1931 51. Curwen 1954. 130 2. SNQ 9 (1943) 133 4
3	SAC 69 (1928) 86 72 (1931) 51, SNQ 9 (1943) 133 4
4	SNQ 9 (1943) 133 4. Rankine 1949 74
17	Curwen 1954. 130 2
32	SAC 9 (1857) 119-24. 72(1931) 50 1. Curwen 1954. 130-2. Evans 1897 185-6 Arch 75 (1926) 79-81 Roe 1966. 237 Found with whetstone (Sx 41). amber cup and bronze dagger in wood coffin in barrow

No.	Note	No.	Note
33	SNQ 9 (1943) 133-4. Found with Bronze Age pottery in a small pit.	137	See above
34	Roe 1966. 237	138	SAC 8 (1656) 286
35	see above	139	SAC 72 (1931) 50
36	SNQ 9 (1943) 133-4	140	SNQ 8 (1940) 67-9 Found within 20m of sx 77
37	See above	142	Found in Roman pit during excavation of Chilgrove Roman villa (site I)
38	See above	153	Found among a dense concentration of worked flints
39	SAC 72 (1931) 50: SNQ 9 (1943) 133-4: Rankine 1949. 75. Wymer 1977. 294	156	SAC 115 (1977) 36. 39 Found during excavations at Bishopstone
40	SAC 65 (1924) 234	171	Found during field-walking among dense concentration of worked flints
41	See Sx 32	172	Found in post-medieval context during excavation of medieval cottage
42	SAC 65 (1924) 234 Found with Mesolithic flints	183	Found within 100m of Sx 74 and 75
43	Hones and rubbers from excavation at Plumpton Plain. Proc Prehist Soc 1 (1935) 36	184	Wymer 1977. 294
44	See above	185	Rankine 1949 74, wymer 1977. 298
45	See above	186	Rankine 1949. 74. Wymer 1977. 300
46	See above	187	See above
47	See above	188	SAC 109 (1971). 4-7. wymer 1977. 301
48	SAC 9(1857) 116-8: 69(1926) 89-90: 72(1931) 51. Evans 1897. 254 This particular section was not seen by the authors. the attribution being made by the Geological Survey In 1939. in view of the description of the section as only "near VI", and the typological unlikelihood of a pestle being made of this rock. this implement is omitted from the descriptions of grouped implements and Table I	189	Clark 1932. 73-4. Rankine 1949. 72. 75. Wymer 1977. 312 Sx 189-94 are all, believed to have been found in the same area as Mesolithic flints
52	Excavated on Iron Age/Romano-British site	190	Rankine 1949. 74. Wymer 1977. 312 see Sx 189
53	SAC 80 (1939) 84-5. Found in an Iron Age pit	191	Wymer 1977. 312 See Sx 189
54	SAC 103 (1963) 83. 87	192	Rankine 1949. 74-5. Wymer 1977. 312 See Sx 189
58	Found as a result of wilful damage to barrow	193	Wymer 1977. 319. 320
60	Not in situ: found in wall of old cottage	194	See above
63	SNQ 8 (1940). 67-9		
64	SAC 8 (1856). 285		
67	ibid 286: 72 (1931), 51: SNQ 2 (1928) 165-7		
68	SAC 71 (1930) 244 Found during excavations at Wolstonbury Hillfort		
69	SNQ 10 (1944) 76-8		
70	SNQ 9 (1943) 133-4. Rankine 1949. 72. 1956. 30. Wymer 1977. 324 found in association with Mesolithic implements		
74	SNQ 13 (1950-2). 84 Found together		
75	See above		
77	SNQ 6 (1940) 67-9 Found within 20 m of Sx 140		
81	Antiq J 21 (1941) 337-41		
83	SNQ 9 (1943) 133-4. Archaeol News Letter 4 (1951) 53		
95	SNQ 15 (1958) 37 Roe 1966. 237		
96	See Sx 83		
98	Probably natural		
103	SNQ 12 (1948) 87-9		
110	SNQ 9 (1943) 133-4. SAC 72 (1931) 51 Not In situ. found built into an old wall		
115	Roe 1966. 237		
119	SNQ 15 (1958) 63-4 Found in association with Mesolithic artifacts		
120	See above		
121	found with Mesolithir artifacts		
122	SNQ 13 (1950-2) 193-5. Wymer 1977. 320		
124	Sussex County Mat: (1929) 869		
125	SNQ 15 (1958) 27		
126	SNQ 3 (1930-1) 56		
127	SNQ 2 (1928) 102 5		
128	SAC 69 (1928) 63: 72 (1931) 50-1. SNQ 9 (1943) 133-4		
129	SAC 81, (1940) 229-32. Found in small. indefinite hearth with pieces of two flint sickles		
130	ibid. 217-8 Found with Mesolithic artifacts		
132	Rankine 1956. 30		
134	Proc Soc Antiq London 18 (1899-1901) 388. Curwen 1954. 186 Found in association with bronze hoard and gold ring		
136	J H Pull. Two Sussex atone hammers. Worthing Herald. 11 Jan 1930		

Surrey

NO	Note
1	Sy AC 50 (1946-7) 134. Stone and Wallis 1951
2	ibid (SWG 244)
3	Sy AC 52 (1950 1) 80-2. Stone and Wallis 1951
4	Evens et al. 1962
6	Sy AC 45 (1936) 141-2. Wymer 1977. 281
7	Sy AC 24 (1911) 50
8	ibid
9	VCH. 3. 404. Archaeal J 28 () 242
16	Sy AC 45 (1936) 141-2. Wymer 1977. 276
17	Sy AC 49 (1944-5) 100
19	Correspondence supposedly in Guildford Museum Said to have been found in a garde at depth of 2-3 ft
21	Sy AL 4 (1865 6) 237; Evans 1897. 230
22	Sy AC 51 (1949) 141. Wymer 1977. 290
24	Found on Mesolithic site. apparently with microlithic
25	Said to have been dredged from Thames. but purchased from dealer at Kingston
27	Sy AC 37 (1924-5) 89-90 Probably ethnographic
28	Said to have been dredged from Thames. possibly Mexican
29	Found on railway line at Haslemere in Thames ballast
30	Sy AC 42 (1933-4) 137
31	Sy AC 24 (1911) 50
32	Dry bed of Engine River. opposite Oatlands
36	Sy AC 25 (1912) 130 Bed of River Wry below Walton Bridge
37	Wymer 1977. 271
42	Sy AC 51 (1949) 141

NO.	Note			
44	Adkins and Jackson 1978. no 53	66	Croydon Natur Hist and Scientific Soc Proc 14 (1972) 260-1.	
45	Roe 1966. 237	67	IGS enq 1496.	
46	Ibid	88	IGS end 2048. From gravel workings 10-16ft. below surface of Thames flood plain.	
49	SY AC 51 (1949) 141	89	IGS end 1030. 1326. 913	
50 See above		90	See above	
51 See above		91	See above	
52	Found in wall of house			
55	Adkins and Jackson 1978, nos 89. 291	93	Wymer 1977. 290. 284. 282. 281	
56 See above		94	See above	
58	Some of the Ham gravel pits were filled with ballast from Chelsea. but this axe possibly a fake	95	See above	
64	Weston Wood excavation	96	See above	
71	Found under original railway line. but probably from Thames near the bridge	97	Rankine 1949. 74; Wymer 1977. 281	
73	Eden Street excavation. Found at a depth of about 16ft, 15ft from back wall of Marks and Spencers	98	Wymer 1977. 279. Found during excavation of Mesolithic 'flint dwelling'.	
78	Surrey Archaeol Soc Bull, no 112. Found at Petters Sports Field. Egham; associated with LBA pottery and features	99	Wymer 1977. 276. Found during excavation of Mesolithic flint-working site.	
79	Langley and Needham 1979. In Berkshire. but placed in Surrey for the purposes of this report	100	Rankine 1949. 76; Wymer 1977. 275.	
80 See above		101	Wymer 1977. 274, 271. 271. 270	
81	Excavated in 1980 at Runnymede Bridge, stratified with Middle Neolithic pottery. Three fragments forming short a complete axe	102	See above	
		103	See above	
		104	See above	

London and Middlesex, including the river Thames

I Implements from the Thames listed by Adkins & Jackson (1978)

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1	37	axe	Twickenhas, above Eel Pie Island	TQ 1673	LM 0.626	I	.
2	38	axe	Houses of Parliament	TQ 3079	Lw 0.614	I	.
3	40	axe	Battersea Bridge	TQ 2777	AshM 1927.87SS	I	.
4	43	1421	Windsor		Windsor Guildhall R1	greenstone	.
5	45	1179	Tilehuret		Reading \$107.45	I	.
6	46	axe	Wandsworth	TQ 2575	Lw A3	greenstone	.
7	47	axe	Surbiton	TQ 1767	LM 49. 107/116	I	.
s	49	axe	Greenwich, HMS Fisgard	TQ 3977	BM Eng 20	I/Ia	.
9	50	1170	Staines	TQ 0371	Reading S115, 45	I	.
10	52	1328	Bray		BM WG 76	I	.
11	53	axe	nr Kingston	TQ 1770	Kingston 726	I	.
12	59	axe	Richmond lock/weir	TQ 1775	LW 49.107/132	I a	.
13	60	1185	Maidenhead		Newbury OA 340	greenstone	.
14	61	axe	Ditton	TQ 1667	LM 49.107/107	XVI	.
15	62	axe	Syon Reach	TQ 1776	LM A22842	I a	.
16	63	axe	Battersea	TQ 2676	BM St 104c	I/Ia	.
17	64	axe	Teddington	TQ 1671	BM 61.6-4.8	greenstone ?	.
18	65	axe	Kingston	TQ 1770	LW 49.107/126	III	.
19	66	axe	Kew Bridge	TQ 1977	LM 0.635	epidotised tuff	.
20	68	axe	Fulham	TQ 2376	LM A1560	I a	.
21	69	axe	Chiswick. below Strand Is	TQ 1977	LM 0.623	I	.
22	70	630	Battersea	TQ 2676	LM 66.28/2	I	.
28	71	axe	Barn Elms	TQ 2876	LM A24366	IV	.
24	73	axe	opp Tate Dallery	TQ 8076	LM A14913	I/Ia	.
25	74	axe	Battersea	TQ 2676	LM A7748	I	.
26	75	axe	Hammersmith	TQ 2278	LM 0.630	I	.
27	77	axe	Old Windsor	su 9975	LW 49.107/164	altered sandstone or greywacke	.
28	79	axe	Syon Reach	TQ 1776	LM 0.448	altered slate	.
29	81	axe	Hampton Court, Sharper's Is	TQ 1568	BM WG 93	VI	.
30	83	axe	Boveney Lock		LM 49.107/149	VI	.
31	84	axe	Hammersmith	TQ 2276	LM A21062	VII	.
32	89	axe	Kingston	TQ 1770	Kingston 639	I	.
33	90	axe	Wapping	TQ 3480	LM A16571	granophyre (Markfieldite)	.
34	92	1176	Reading, The Clappers		Reading 63.47	granophyre	.
35	94	1178	Benson		Reading S116.45	schistose gabbro	.
36	128	axe	Staines	TQ 0371	LM A10928	VII	.
37	132	axe	Hampton Court	TQ 1578	LM 49.107/165	augite granophyre	.
38	146	axe	Teddington	TQ 1771	AshM 1927. 3606	VII	.
39	161	axe	Egham, below Bell Weir lock		Reading 7.57	VI	.
40	162	1287	Buckland		PP	VI	.
41	164	1169	above Magna Carta Is	SU 9973	Reading 253.473	VI	.
42	165	axe	Teddington	TQ 1771	LM 49.107/122	VI	.
43	197	axe	Bray	SU 9079	LM 49.107/131	greenstone	.
44	234	1177	Reading		Reading 64.47	VI	.
45	235	axe	Staines	TQ 0371	LM A10930	VIII	.
46	240	axe	Kew Bridge, off Toll House	TQ 1977	LM 0.585	altered dolerite or greenstone	.
47	241	axe	Long Reach	TQ 560770	LM 0.547	slate (ns)	.

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
48	244	axe	Strand on the Green	TQ 1977	LM 0.701	amphibole	*
49	253	axe	Syon Reach	TQ 1776	LM 33.153/2	VII	*
50	255	axe	Battersea	TQ 2676	BM 61.6-20.1	XVI	*
51	261	axe	Wandsworth	TQ 2575	LM A1932	I a	*
52	263	axe	Chilswick Eyot	TQ 2177	BM WG 75	I/Ia	*
53	265	1171 axe	Staines	TQ 0371	Reading \$114.45	VI	*
54	266	axe	Hammersmith	TQ 2278	LM 0.629	altered dolerite	*
55	270	axe	Battersea	TQ 2676	BM 61.6-20.1	VII	*
56	275	axe	Staines	TQ 0371	LM A10927	VII	*
57	277	axe	Greenwich, HMS Fisgard	TQ 3977	BM Eng 19	VI	*
58	282	axe	Battersea	TQ 2676	BM +5584	VI	*
59	288	axe	nr Syon House	TQ 1776	LM 0.618	I	*
60	291	axe	Kingston	TQ 1770	Kingston 12	VI	*
61	295	1191 axe	Benson		Reading 75.47	VI	*
62	296	axe	Bray Reach	SU 9079	Reading 37.62	quartzite (ns)	*
63	306	axe	Wandsworth	TQ 2575	LM 26003	non-ophitic dolerite	*
64	317	axe	Strand on the green	TQ 1977	LM 0.621	altered coarse dolerite or gre-enstone	*
65	318	axe	Chiswick	TQ 2076	LM 0.553	altered epidotised greenstone	*
66	319	axe	nr Battersea	TQ 2676	BM 9234	VII	*
67	321	axe	Lambeth, opp Lambeth Palace	TQ 3079	LM A26010	serpentine	*
68	325	axe	Brentford (Old England)	TQ 1877	LM 0.425	VI	*
69	340	axe	Teddington	TQ 1771	BM 61.6-4.7	VII	*
70	341	1422 axe	nr Windsor		Windsor Guildhall R1 5	greenstone	*
71	343	1186 axe	Reading		Newbury 0A238	epidiorite	*
72	344	1506 axe	Reading		Reading 77.47	IX	*
73	345	1254 axe	Purley		Reading 263.63	VI	*
74	347	1175 axe	Bray Reach		Reading 24.42	rhyolite	*
75	358	axe	Twickenham	TQ 1673	LM 0.3319	VI	*
76	363	1185 axe	Mapledurham		Reding 60.57	acid tuff	*
77	366	1508 axe	Old Windsor, Victoria Br		Reading 74.47	IV	*
78	367	axe	Tower of London	TQ 3380	LM 0.442	pyroxenite (near jadeite)	*

II Other implements examined as part of the Implement Petrology Committee's work, whose identifications were published by Celoria (1974) and Stanley (1976) but omitted by Adkins & Jackson (1978)

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
79		axe	Bromley by Bow	TQ 3782	LM 995	VI	*
80	629	axe	City, Queen St	TQ 3280	LM 68.28/1	IX	*
81		axe	Fulham, 61 Britannia Rd	TQ 2476	pp	epidote hornblende schist	*
82		axe	Gower St	TQ 2982	LM A10566	decomposed dolerite	*
83		axe	W Kensington	TQ 2478	LM 0.3313	coarse non-ophitic dolerite	*
84	1066	axe, pt	R Thames		Birmingham	spotted slate	*
85		axe	Vauxhall, R Thames	TQ 3078	ex Wellcome 484	I	*
86		axe, Ia	Vauxhall Br, R Thames	TQ 3078	BM 1907.6-19.1	jadeite	*
87		axe	Wapping, R Thames	TQ 3480	LM A12299	IX	*
88		axe	Whitehall Palace excav, Richmond Terrace	TQ 3079	LM 82.339	greenstone	*
89		axe	Wimbledon Common Inner Park Rd	TQ 2371	pp	hornfels	*
90		axe	Woolwich, R Thames	TQ 4379	ex Wellcome 485	near I	*
91	943	mace, pt perf	Woolwich		Maidstone	sandstone	*
92		pebble, perf	Brentford	TQ 1877	LM 0.754	quartzite	*
93		axe	Brentford, R Thames	TQ 1877	ex Wellcome 517	VII	*
94		mace	Chiswick	TQ 1977	LM 0.749	quartzite	*
95		axe	Hampton Court	TQ 1568	LM 0.592	fine grained ultrabasic rock	*
96		axe	Hampton Court, R Thames	TQ 1568	ex Wellcome 525	VII	*
97		axe	Molesey, R Thames	TQ 1469	ex Wellcome 526	I ?	*
98		b-a	Petersham Ait	TQ 1773	LM 49.107/161	acid tuff	*
99		axe	Brentford, Syon Reach	TQ 1776	ex Wellcome 483	greenstone	*
100		flake	Yeoveney causewayed camp	TQ 025725	Dept of Environment	VI	*
101		s-h adze	?Sunbury	TQ 1068?	LM 49.107/162	greywacke	*
102		b-a, I c	Thames Ditton Is	TQ 1667	LM 49.107/157	XVIII	*
103		axe	Muswell Hill, 13 Windermere Rd	TQ 287906	pp	actinolite chlorite epidote schist	*
104		a-h	Tilbury Docks	TQ 6375	LM 49.107/376	XIV	*
105		axe	?Richmond	TQ 1774	LM 49.107/102	VI	*
106		s-h adze	Kingston	TQ 1870	LM 49.107/163	greywacke	*
107		axe, Ib	Mortlake	TQ 2076	LM 31.48	jadeite	*
108		axe	R Thames		LM 49.107/44	I	*
109		axe	R Thames		Uxbridge Lib	I a	*
110		axe	R Thames		LM 49.107/142	VI	*
111		axe	R Thames		LM 38.18	I a	*
112		axe	R Thames		LM 49.107/151	VI	*
113		axe	R Thames		BM 55.5-1.1	I/Ia	*
114		axe	Hamptonwick, R Thames	TQ 1769	BM 1937.1-4.1	I/Ia	*
115		axe	Kew, R Thames	TQ 1977	BM unreg	I/Ia	*
116		axe	R Thames		BM 57.10-16.3	I/Ia	*
117		axe	Hammersmith, R Thames	TQ 2278	BM WG 94	VI	*
118		axe	R Thames, East Ham		BM 53.11-22.1	VI	*
119		axe	East Ham	TQ 4183	BM 1948.5-1.1	VI ?	*
120		axe	?R Thames		BM 1997.1-4.1	VII	*
121		axe	R Thames		BM 9235	IX	*
122		axe	Blackfriars/ Waterloo, R Thames	TQ 3189	BM 9236	IX	*

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
123		axe	Clerkenwell	TQ 3182	BM 9237	IX	*
124		axe	R Thames	.	BM 6.5.73	XV	*
125		axe	Kingston, R Thames	TQ 1769	BM WG 77	XVI	*
126		axe	Kew, R Thames	TQ 1977	BM St 104V	XX	*
127		axe	Harlington	TQ 0978	BM 1933.4-6.86	gneiss or hornblende granite	*
128		axe	Hackney, Graham Rd	TQ 3484	BM unreg	fresh amphibole	*
129		axe	Harefield	TQ 0590	BM unreg	amphibole	*
130		axe	Barkingside, St Swithins	TQ 4489	BM unreg	intermediate igneous rock	*
131		axe	Richmond, R Thames	TQ 1774	BM WG 92	siliceous rock	*
132		axe	City, GPO	TQ 3281	BM 56.7-1.1356	fine grained tuff	*

Notes

No.	Note	No	Note
1	LM records	45	Celoria 42
2	LM records	46	LM records
3	BM records	47	LM records
4	SW 1421=Ber 53 (qv)	48	LM records
5	SW 1179=Ber 24 (qv)	49	Celoria 37
6	Celoria 16	50	Stanley
7	Celoria 59, Stanley	51	Celoria 18; Stanley
8	Stanley	52	Stanley
9	SW 1170=Msex 2, Celoria 41	53	SW 1171=Msex 3; Celoria 40
10	SW 1328=Ber 49 (qv)	54	Celoria 8
11	FS Wallis 1964	55	Stanley
12	Celoria 60, Stanley	56	Celoria 43
13	SW 1185=Ber 30 (qv)	57	Stanley
14	Celoria 46	58	Stanley
15	Celoria 68	59	LM records
16	Stanley	60	FS Wallis 1964
17	Stanley	61	SW 1191=Ber 36 (qv)
18	Celoria 55	62	Reading Museum records
19	LM Records	63	Celoria 17
20	Celoria 5	64	Celoria 30
21	LM records	65	LM records
22	SW 630=Lond 2 Celoria 2	66	Stanley
23	Celoria 66	67	Celoria 67
24	Stanley	68	Celoria 28
25	Celoria 1	69	Stanley
26	LM records	70	SW 1422=Ber 54 (qv)
27	Celoria 50	71	SW 1186=Ber 31 (qv)
28	Celoria 27	72	SW 1506=Ber 63 (qv)
29	Stanley	73	SW 1254=Ber 40 (qv)
30	Bu 9 (qv), Celoria 52	74	SW 1175=Ber 20 (qv)
31	Celoria 9	75	Celoria 48
32	FS Wallis 1964	76	SW 1183=Ber 28 (qv)
33	Celoria 20	77	SW 1508=Ber 65 (qv)
34	SW 1176=Ber 21 (qv)	78	Celoria 12
35	SW 1178=Ber 23 (qv)	79	Celoria 3
36	Celoria 69	80	SW 629=Lond 1, Celoria 4
37	Celoria 33	81	IGS Eng 1833; Celoria 6
38	BM records	82	Celoria 7
39	SW 1172=Sy 4 (qv)	83	Celoria 10
40	SW 1287=Ber 41 (qv)	84	Celoria 11
41	Celoria 53	85	Celoria 14
42	Celoria 45	86	Campbell Smith 1963, no 30; Celoria 15
43	Celoria 51	87	Celoria 19: Stanley
44	SW 1177=Ber 22 (qv)	88	Celoria 21
		89	IGS Eng 1326; Celoria 22

No.	Note	No	Note
90	Celoria 23	104	Celoria 54
91	SW 943-Kent 4 (q); Celoria 24	105	Celoria 56
92	Celoria 25	106	Celoria 57
93	Celoria 29	107	Celoria 58
94	Celoria 31	108	Celoria 61
95	Celoria 32	109	Celoria 62
96	Celoria 34	110	Celoria 63
97	Celoria 35	111	Celoria 64
98	Celoria 36	112	Celoria 65
99	Celoria 38	113-32	Stanley
100	Celoria 39		
101	Celoria 44		
102	Celoria 47		
103	Lacaille. Trans London Middlesex Archaeol Soc, 20-2 (1960), facing 81, Celoria 49		

East Anglia

Abbreviations

AshM	Ashmolean Museum, Oxford	IGS	Institute of Geological Sciences, London
BM	British Museum, London	IM	Ipswich Museum
Bury	Moyse's Hall Museum, Bury St Edmunds	KLM	King's Lynn Museum
CM	Colchester and Essex Museum	NCM	Norwich Castle Museum
CUM	Cambridge University Museum of Archaeology and Anthropology	PM	Peterborough Museum

Cambridgeshire

No.	Ser.	Implement	Locality	N. G. R.	Accession	Petrology	Note
1		a-h	Isleham	TL 626742	CUM 53.116	XVIII	
2		axe, pt	Histon	TL 4363	CUM 36.98	epidiorite	
3		axe, pt	Swaffham	TL 5663	CUM Z 14903	VI	
4		axe	Ickleton	TL 4943	CUM 48.303	I	
5		axe	nr Soham	TL 5973?	CUM 34.893	I	
6		axe	Coveney Fen	TL 4882	PP	I	
7		axe	Bottisham Fen	TL 5365	AM 1927.3374	VI	
8		axe	Bottisham	TL 5460	SM 1927.3373	anthophyllite cordierite horn-els	*
9		axe	Burwell Fen	TL 5767	AM 1927.3386	I	
10		axe, fr	Burwell Fen	TL 5767	AM 1927.3384	VI	
11		axe	Burwell Fen	TL 5767	AM 1927.3385	I	
12		axe	Cambridge, How House, Huntingdon Rd	TL 4359	AM 1927.3402	I	
13		axe	Cambridge, Coldham's Common	TL 4785	AM 1927.3403	epidote hornblende schist	*
14		axe	nr Cambridge	TL 45?	AM 1927.3400	I	*
15		axe	Reach Fen	TL 5666	AM 1927.3450	I	
16		axe	Swaffham Fen	TL 5467?	AM 1927.3431	VII	
17		b-a, V d	Chippenhams, east of Isleham Plantation	TL 662711	CUM 34.990 B	XII	*
18	191	axe	Swaffham Prior (Swaffham Engine Drain)	TL 5369	CUM	VII	*
19		axe	Stonea	TL 4593	CUM A 1905.458	XV	*
20		axe	Burwell Fen	TL 5767	CUM Z14900	VI	
21		axe	Isleham	TL 6474	CUM Z14902	VI	
22		axe	nr Soham	TL 5973?	CUM 33.478	VI	
23		mace, pt perf	nr Soham	TL 5973?	CUM 33.479	quartzite	
24		a-h	Stretham Fen	TL 5174	CUM 1919.94	XVIII	
25		axe	Swaffham	TL 5663	CUM 51.461 B	VI	
26		axe	Shaffham	TL 5663	CUM 51.451 A	I	
27		axe	Bottisham Lode	TL 5264	AM 1927.3372	VI	
28		axe	Cambridge Fens		AM 1927.3536	I	
29		a-h	Chatteris Fen	TL 3980	AM 1927.3452	porphyritic rhyolite	*
30		axe	Isle of Ely	TL 5480?	AM 1943.51	VI	
31		a-h ?, altered	Orwell/Wimpole	TL 3650?	AM 1927.3451	non-ophitic dolerite	*
32		axe	Swaffham Fen	TL 5467	AM 1927.3432	tuff	*
33		axe	Swaffham	TL 5663	AM 1927.3444	greenstone	*
34		mace	Wicken Fen	TL 5570	AM 1927.3448	XVIII	
35	1067	flake	Littleport, Burnt Fen	TL 6087	Birmingham 4.46	VI	
36		mace, pt	Littleport	TL 5686	KLM ex NCM 35.933(6)	greywacke	*
37		axe, pt	Whittlesey, Eldernell	TL 3198	KLM ex NCM 22.08(62)	tuff	
38		axe	Wilbraham, field off the Green Road	TL 5458	pp	VI	
39		axe, rewd	Soham, Fordey Drove	TL 543752	pp	VI	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
40		axe	Swaffham	TL 5663	CUM 48.304	I	
41		axe	Hauxton Mill	TL 433527	CUM 62.206	andesite	
42		axe	Cambridge, Mill Road	TL 470575	CUM 30.68	greenstone	
43		axe	Burwell (? Fen)	TL 573683	CUM 52.436 B	near VI	
44		mace, Thames pestle	Soham district	TL 5973?	CUM 34.894	XX	
45		axe	Soham district	TL 5973?	CUM 34.896	rhyolite	*
46		axe	Bottisham	TL 5460	CUM A 1909,105.56	VI	
47		axe	chatteris, langwood Fen	TL 4385	p.p.	near VI	*
48		axe, pt, rewd ?	Fordham	TL 6370	Bury E.518	dolerite	*
49		axe	Littleport, Burnt Fen	TL 6087	Bury E.194	VI	
50		axe, pt polished	Fordham, Block Farm	TL 6070	Bury E.338	VII	
51		b-a, I c	Bottisham	TL 5460	CUM 83.83	greenstone	
52		axe	Bottisham Fen	TL 5365	CUM 83.35	VI	
53		axe	Bottisham	TL 5460	CUM 27.495	greenstone	
54		axe	Bottisham Fen	TL 5365	CUM 83.36	tuff	
55		mace, cushion, pt perf	Bottisham	TL 5460	CUM 51.458 A	amphibole	
56		axe	Bottisham Lode	TL 5264	CUM 51.392 B	near I	
57		axe	Bottisham, 'Ayres Farm'	TL 5460	CUM 53.151	VI	
58		axe	Bottisham	TL 5460	CUM Z 14874	greenstone	
59		axe	Bottisham Lode Fen	TL 5264	CUM Z 15317	greenstone	
60		axe	Bottisham Lode Fen	TL 5264	CUM Z 15318	VI ?	
61		axe	Bottisham	TL 5460	CUM Z 15319	VI	
62		axe	Bottisham Lode	TL 5264	CUM Z 15320	VI	
63		axe	Bottisham Fen	TL 5364	CUM Z 15321	XX	
64		axe	Bottisham Lode	TL 5264	CUM Z 15322	olivine dolerite	
65		axe	Bottisham Fen	TL 5364	CUM Z 15323	XX	
66		axe	Aldreth, High Bridge	TL 4372	CUM 83.43	granophyre (Markfieldite)	*
67		axe	Barrington	TL 3949	CUM Z 15353	VI	
68		axe	Barrington	TL 3949	CUM 51.464	granite	
69		axe	Bassingbourn	TL 3344	ZUM 21.B.13 (DEP)	VI	
70		axe, fr	Mildenhall, Beck Row, Wilde St	TL 7078	ZUM Z 15354	VI	*
71		mace, Thames pestle	Burwell	TL 5866	CUM Z 15355	I	
72		axe	Burwell Fen	TL 5767	CUM Z 15356	crushed granite	
73		axe, pt	Burwell Fen	TL 5767	CUM 21.65.97	XX	
74		axe	Burwell	TL 5866	CUM 29.300	XX	
75		axe	Burwell	TL 5866	CUM 83.40	VI	
76		hone ?	Cambridge	.	CUM 83.89	unidentified (ns)	
77		axe, fr	Cambridge	TL 45?	CUM 04.35	IX	
78		axe	Coton	TL 4058	CUM Z 15349	XX	
79		axe	Coton	TL 4058	CUM Z 15350	VI	
80		axe	Fen Ditton	TL 4860	CUM 83.41	I	
81		p-h	Fen Ditton	TL 4860	CUM 18.104	XIX	
82		axe	Fen Ditton, Biggin Abbey	TL 487617	CUM Z 15351	greenstone	
83		axe	Newmarket, Devil's Dyke, 'Tonbr- idge Farm'	TL 6262?	CUM 10.97	VI	
84		polisher ?	Cambridge	TL 45?	CUM 83.88	sandstone	
85		axe	Manea, Fox Farm, Byall Fen	TL 4586	CUM 61.132	greenstone	
86		axe	Chatteris	TL 3986	pp	dolerite	
87		axe	Burwell Fen	TL 5767	CUM 83.42	greenstone	
88		b-a, I c	Downham	TL 5284	CUM 36.104	XVIII	
89		axe, I a	Burwell Fen	TL 5767	CUM Z 15038	jadeite	
90		axe, I a	Histon	TL 4363	CUM A 1907.304	jadeite	
91		axe, I a	Thriplow	TL 4446	CUM 29.409	jadeite (mainly)	
92		axe, II a	Grantchester	TL 4355	BM Sturge 242	diabase (dolerite)	
93		axe	Ely	TL 5480	CUM 64.6	VI	
94		axe	Fowlmere	TL 4245	CUM 27.2030	VI	
95		axe	Fordham	TL 6370	CUM Z 15383	I	
96		axe	Fordham Moor	TL 6371	CUM 51.463	IX	
97		axe	Fordham	TL 6370	CUM 1909.5	greenstone	
98		axe	Horningsea?	TL 4962?	CUM 1918.102	greenstone	*
99		axe, miniature	Horningsea	TL 4962	CUM 1918.101	VI	
100		axe	Histon	TL 4363	CUM Z 15384	IX	
101		axe	Isleham	TL 6474	CUM 56.241	I	
102		axe	Fordham	TL 632715	Bury E.596	VII	
103		axe	Litlington	TL 3142	CUM Z 15385 B	IX	
104		axe	Litlington	TL 3142	CUM Z 15385 C	IX	
105		axe	Litlington	TL 3142	CUM 1917.13	VI	
106		axe	Lode	TL 5362	CUM 50.11	VI	
107		b-a	Littleport, Coal Farm	TL 585915	pp	quartz porphyry	
108		axe	Ely, Shippea Hill	TL 628844	pp	XVI	*
109		axe	Newmarket, Upper Hare Park	TL 5859?	CUM 1906.147	VI	
110		axe	Quy, Quy Fen	TL 5162	CUM Z 15391	VI	
111		axe	Quy	TL 5159	CUM Z 15392	VI	
112		axe	Reach Fen	TL 5966?	CUM 15393	near I	
113		axe	Soham Mere	TL 5773	CUM Z 14875	VI	
114		axe	Swaffham Bulkbeck	TL 5562	CUM Z 15396	coarse tuff	
115		axe	Swaffham Fen	TL 5467?	CUM 83.33	VI	
116		axe	Swaffham Fen	TL 5467?	CUM 83.37	VI	
117		axe	Swaffham Fen	TL 5467?	CUM 83.38	VI	
118		axe	Swaffham	TL 5663?	CUM 29.299	XX	
119		axe	Whittlesey Mere	TL 2190	PM L966	VI	
120		axe, pt	Swaffham Prior, Adventurer's Gr- ound Fm	TL 5564	pp	coarse tuff	
121		b-a ?, pt	Cambridgeshire	.	CUM 23.1091	altered gabbro	
122		axe	Cambridgeshire	.	CUM 23.1091	quartz dolerite	
123		axe	Cambridgeshire	.	CUM 23.1091	quartz diorite	
124		axe	Cambridgeshire	.	CUM 23.1091	epidotised tuff	
125		axe, pt	Cambridgeshire	.	CUM 27.502	quartzite	
126		axe	Cambridge, Malting House Lane, Newnham	TL 4457	pp	XX	
127		axe	Lode	TL 5362	pp	near I	
128		axe	Whittlesey, Eldernell	TL 3198?	PM L956/A	VI	
129		rubber ?	Whittlesey, Eldernell	TL 3198	PM L955/A	epidotised andesite	

No.	Ser.	Implement	Locality	N. G. R.	Accession	Petrology	Note
130		axe	Whittlesey, Kingland	-	PM L639/A	epidotised andesite	
131		axe	Whittlesey	TL 2796	PM L966/A	VI	
132		axe	Great Wilbraham	TL 5457	CUM 1918.103	tremolite fels	
133		axe	Wilburton	TL 4774	CUM Z 17275	VI	
134		axe	Wimblington. Brown's Hill	TL 4390	CUM Z 16407	VII	
135		axe	Wicken Fen	TL 5570	CUM 1894.10(125)	amphibolite	
136		axe	Wicken Fen	TL 5590	CUM Z 17276	calcite mudstone	
137		axe	Wittering	TF 0501	Stamford N441(247)	greenstone	
136		axe	Sedge Pen/Sohas Fen	TL 561746	PP	xx	
139		axe, fr	March, Flaggrass Marsh	TL 424985	?Wisbech	VI	
140		axe	Cambridge	TL 4558	Bedford 6751	fine grained tuff	
141		axe, fr, rewkd	Thornhaugh, Sacrewell Fm	TL 088997	PP	VI	
142		axe	Dillington	TL 1365	Kettering 70.30	I	
143		see HUN 1	-	-	-	-	
144		See HUN 2	-	-	-	-	
145		axe	Alwalton/Orton Waterville/Lynch Farm complex	TL 145975	Mene Valley Res Ctte	VI	
146		polisher ?	Alwalton/Orton Waterville/Lynch Farm complex	TL 145975	Nene Valley Res Ctte	VI coarse	
147		axe	Conington, Conington Fen	TL 1985	pp ?	feldapathic tuff	
148		axe	Conington, Castle Fm	TL 1884	PP	greenstone	
149		s-h adze	Huntingdon Fen	-	Luton 87/34	preenstone ?	
150		axe	Holme Fen	TL 2188	PP	epidiorite	
151		axe, fr	Maxey excav 1963	TF 120070	PP	VI	
152		axe, fr	Maxey excav 1964	TF 115080	PP	VI	
153		flake	Barneck excav 1964	TF 080066	PP	VII ?	
154		axe	Etton, Maxham's Green Road	TF 135045	PP	VI	
155		axe	Etton, Maxham's Green Road	TF 135045	PP	VI	
156		axe	Pond's Bridge. Pondersbridge ?	TL 2692	PM L967/A	I	
157		axe	Peterborough. Park Rd	TF 193000	PM L958/A	I	
158		b-a	Peterborough area	TL 1998	PM L970/A	olivine basalt	
159		axe, fr	Peterborough, Fengate	TL 209993	Welland Valley Res C ttee	VI	
160		axe, fr	Peterborough, Fengate	TL 209993	Welland Valley Res C ttee	VI	
161		axe, fr	Peterborough, Fengate	TL 209993	Welland Valley Res C ttee	VI	
162		axe	Helpston	TF 122055	PM L638/A	I	
163		hammer, perf	Eye	TF 2202	PM L969	quartzite	
164		b-a	Rewark, Herdsman Hill	TF 2100	Ash M 1956.983	XVIII	
165		axe	Wansford	TL 0799	Northampton DI28/1954-5	IX	
166		flake	Peterborough, Fengate	TL 213988	Welland Valley Res C ttee	VI	
167		flake	Peterborough, Fengate	TL 213988	Welland Valley Res C ttee	gabbro	
168		mace, pestle ?, fr	Barnack	TF 0705	PP	xx	
169		mace, pt	Guilden Morden, Little Green Fa- rm	TL 2844	Letchworth 83.1964	quartzite	
170		axe	Wansford/Elton, R Nene	TL 0893?	PM L633/A	VII	
171		axe	nr Peterborough	TL 1998	PM L641/A	oolitic limestone	

Essex

N0.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
2		axe	Walton-on-the-Naze	TM 2823?	CUM 51.873	I a	
3		b-a, II b	Great Oakley Hall, Gutter Field	TM 2028	CM 067/1893	IV	
4		axe	Southchurch Waters	TQ 9084?	CM 054/1893	I	
5		axe	Dovercourt	TN 2531	CM 044/1893	1	
6		axe	Walton-on-the-Naze	TM 2623	CM 032/1893	1	
7		axe	nr. Barking	-	CM 22001.11	1	
8		axe	Walton-on-the-Naze	TM 2623	CM 033/1893	1	
9		axe	Walton-on-the-Naze	TM 2623	CM 031/1893	1	
10		axe	Walton-on-the-Naze	TM 2623	CM 029/1893	I	
11		axe	Walton-on-the-Naze	TM 2623	CM 030/1893	I a	
12		axe	Walton-on-the-Naze	TM 2623	CM 028/1893	XVI	
13		axe	Walton-on-the-Naze	TM 2623	CM 027/1893	I	
14		mace, pt	Stanway. Millfield Street Fm.	FL 0424	CM 065/1893	quartzite	
15		mace, cushion	Dovercourt	TM 2531	CR 042/1893	XVIII	
16		mace, pt	Dovercourt	TM 2531	CM 043/1893	olivine basalt	
17		axe, fr, rewkd	Barking	TQ 4583?	CM 3393.16	sandstone	
18		axe	nr Romford	-	CR 3391.16	quartz dolerite	
19		axe, Perf	Layer Breton. Manor Farn	TL 9418	CR 2386.11	near I	
20		a-b	Barking Creek	TQ 4562?	CM 3124.14	sandstone	
21		mace	Layer Breton. Manor Fan	TL 9416	CM 2387.11	greenstone	
22		axe, pt	nr Grays	TQ 6177?	CM 3394.16	porphyritic rhyolite	
23		axe	Ardleigh, Harwich Road	TM 031280	CM 595.28	II	
24	892	axe	nr Lamarsh Hall	TL 8836	CM 296.35	XIII	
24		flake	Clacton-on-Sea. Jaywick Sands , cooking hole 10	TM 146127	BM 1958.56.5-6.767	I	*
25		axe	Colchester , Pondfields Fn	TM 0126	CR 2797.13	near I	
26		axe, II a	Langham	TM 0333	CM 51.40	pyroxene (jadeite)	
27		axe	Mile End, Moore's Fm	TL 9929	CR 106.43	VI or near VI	
28		axe	Sible Hedingham. Lowt's Field. Cuckoo Fm	TL 762336	CR 5230.26	tuff	*
29		a-h	Thaxted	TL 6131	CR 627.30	XIII	
30		a-h	Tendring	TM 142241	CR 172.32	dolorite	
31		axe	Boxted	TL 9933	a 78.33	amphibole granulite	
32		P-h	Mistley	TM 1231	CM 278.34	quartrite	
		b-a ?, pt perf?	Essex	-	CM Jarmin Coll.	dolerite	

No.	Ser.	Implement	Locality	N.G.R.	Accessal on	Petrology	Not.
34		p-b. pt perf	?Fingringhoe area	TN 0220?	CM 667.60	elvan	
35		axe	Ardleigh. Ipswich Rd	TN 0529	CM 6067.27	I	
36		mace	Great Holland	TN 2119	CM 1092.55	greywacke	
37		axe	Colchester	TN 02 ?	CM 1012.55	x x	*
38		axe	'Stratford'	-	CM 3392.16	IX	*
39		b-a, pt	Alresford Creek	TM 0719	CM 30.61	quartzite	
40		axe	?Essex	-	CM Acton 642	acid tuff	
41		b-a	Frating	TN 0822	Northampton D14/1947	XVIII	
42		axe. II a	Paglesham	TQ 932923	PP	jadeite	*
43		mace, pt	Henham	TL 561297	Saffron Walden Mus.	sandstone	
44		axe. pt	Waltham Abbey, Redholm	TL 379009	PP	VI	
45		axe	Harlow?	TL 4510?	PP?	I	*
46		axe	Harwich	TM 2531	PP	greenstone	
47		axe	Walton-on-the-Naze	TM 2521	CR Laver Co11 034	VI	
48		axe	Ardleigh	TM 030277	CM 134. 1972	greenstone	
49		s-h adze	Stanway	TL 942231	CM	coarse lithic sandstone	
50		axe	Thundersley	TQ 799872	CM	tremolite fels	*
51		p-h, pt	Epping Forest	TQ 4197?	IGS unreg	quartzite (ns)	
52		axe	Farnham. Hazel End	TL 4924	Saffron Walden 1891.	I	
53		axe	Saffron Walden, Battle Ditches area	TL 535382	46 Saffron Walden 1964.	XV	
54		axe	Saffron Walden. Battle Ditches area	TL 604394	-60 Saffron Walden 1960.	acid tuff	
55		axe	Chelmsford, Gt. Baddow	TL 7006	-11 BM 1950.7-5.1 to 7	greenstone (ns)	

Huntingdonshire

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1	138	axe	Bluntisham	TL 3674	St Ives X593	VIII	
2	1106	axe	Great Staughton	TL 131636	PP	VI	

Norfolk

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe. pt	'West Runton'	TG 1742?	NCM 57.935	near VI	*
2		axe	Beesingham	TG 1636	NCM 57.935	VI	*
3		axe	Norwich, Plumstead Rd estate	TG 2509?	NCM 147.934	porphyrite	*
4		axe, pt	East Bilney	TF 9519	NCM 57.935	tuff	*
5		axe. pt	nr Croner	TO 2142?	NCM 1043. 968	amphibolite	
6		axe	Cranwich	TL 7894	NCM 153.929	xx	
7		a-h	'Langley'	TG 3500?	NCM 71.943	basalt	*
8		axe. III b	Snettisham. Lodge Hill Fm	TF 667344	NCM 118.949	garnet pyroxenite	
9		axe	Burgh St Peter	TN 4693	NCM 146.934	agglomerate	*
10		axe	Caister by Yarmouth beach	TG 5212	NCM 72.21	dolerite	
11		axe	Castle Acre	TF 6115	NCM 22.08(46)	greenstone (?foreign)	*
12		axe	Great Dunham, Tulip Hills	TF 853155	NCM 78.94(799)	VI ?	*
13		axe	nr Rackheath	TG 2714?	NCM 87.946	sandstone	
14		axe, pt. pt perf	Thetford	TL 8783	NCM 83.24	tuff or rhyolite	
15		axe	Wretton	TL 6999	NCM 22.08(65)	I	
16		axe	Thornham	TF 7343	NCM 3.950	VI	
17		axe	Salhouse	TG 3014	NCM 67.928	VI	
18		axe	Loddon, Dull's Lane	TN 3698	NCM 78.94(806)	ophitic dolerite	*
19		axe	Cromer beach	TG 2242	NCM 160.938	altered dolerite	
20		axe	East Bilney area	TF 9519?	NCM 169.951	tuff or ash	
21		axe, perf	Wereham	TF 6801	NCM 22.08(61)	VI	#
22		axe, pt	Bedingham	TM 2893	NCM 1044.968	ophitic dolerite	*
23		axe.	Barton Bendish. Eastmoor Fen	TF 7303	NCM 22.08(63)	I	
24		axe	Wretton or Wereham	-	NCM 22.08(64)	dolerite or basalt	*
25		axe	Norfolk	-	NCM 22.08(66)	basalt	
26		axe	probably Norfolk	-	NCM 78.94(865)	quartzite	
27		a-h	Warham St Mary	TF 945431	p.p.	quartz dolerite	
28	242	mace. Thames pestle	Santon Warren West	TL 814883	Thetford A 2446	I	
29		axe	Feltwell	TL 7190	NCM 346.958(5)	ophitic diabase	*
30		axe	Thurlton	TN 4198	NCM 3.945	VIII	
31		axe	Snettisham, Lodge Farm	TF 664344	NCM 31.958	VI	
32		a-h	Wilgay, near Rodney Bridge	TL 618966	KLM A.2	sub-ophitic dolerite	*
33		a-h	North Sea (nr Woolpack Sand)	-	KLM A.3	greenstone	*
34		b-a	'Tottenham'	TF 8411?	KLM A.4	XVIII	*
35		a-h	nr Docking	TF 7637?	KLM A.5	XVIII	
36		a-h	nr Docking	TF 7637?	KLM A.6	XVIII	
37		axe	Thuxton	TG 0307	KLM A.7	VI	
38		exe, miniature, III b	Saxthorpe	TG 117303	NCM 146.960	pyroxene (near Jadeite)	
39		mace	Trimingham	TG 2738	NCM 57. 935	tuff	
40		a-h	Caistor by Norwich	TO 237050	NCM 4.948	Sandotone	
41		b-a, V (S), pt	Scole	TN 162790	NCM 39.961	XII	
42		axe	Babingley	TF 673258	SEM	III	
43		axe, pt perf	Rockwold-cum-Wilton	TL 745896	W	near I	
44		axe. pt	Feltwell	TL 7190	PP	VI	
45		axe	Great Bircham	TF 7732	NCM 73.958	VI	
46		axe	East Tuddenham	TG 096117	NCM 139.956	I	
47		axe	Weeting. Grim's Graves	TL 817696	BM 83. 7-5. 45	III a	*
48		axe	Weeting, Grime's Graves	TL 817896	BM net reg.	IV	*
49		a-h	Foulsham	TG 034256	pp	dolerite	
50		mace	Shotesham	TM 2499	NCM 137. 925	siltstone	

No	Ser.	Implement	Locality	N. G. R.	Accession	Petrology	Note
51		axe	Babingley, Whalley Farm	TF 678262	SEM	VI	
52		b-a, I b	Wymondham	TG 094026	pp	XVIII	
53		a-b, pt	Feltwell, nr Whitehyke	TL 6989	NCM 315.962	xv	
54		axe	Saham Toney	TF 936049	NCM 145.960	epidiorite	*
55		axe	Blickling	TG 1726	NCM 122.959	XVIII	
56		axe	Scarning	TF 962102	NCM 183.956	xx	
57		axe, pt	Hockwold-cum-Wilton	TL 695675	NCM 121.960	VI	*
58		axe	Hockwold-cum-Wilton	TL 695875	NCM 121.960	epidiorite	*
59		b-a, II c	Horning	TG 3516	NCM 583.962 ex III	olivine dolerite	*
60		axe	Rockland, nr Attleborough	TL 9997	NCM 597.962	VI	
61		axe	Anmer or Dersingham	-	SEM	greYWacke	*
62		b-a, II b	Methwold Severalls	TL 6696	NCM 46.964	sub-greyWacke	
63		a-h	Frettenham	TG 245205	NCM 53.964	XVIII ?	
64		e-h	Fordham, Gravelhouse Farm	TL 6099	KLM 33.960	XVIII	
65		e-h	Beechamwell	TF 751088	KLM 35.962	greenstone	
66		a-h	Great Massingham	FX 772213	KLM 24.957	XVIII	
67		a-h	West Dereham	TF 659008	KLM 1.957	XVIII	
68		a-h	'Downham Market'	TF 6103?	KLM DM	XVIII	*
69		a-h, pt	Bagthorpe-with-Barmer	TF 793322	KLM 12.960	greenatone	
70		b-a, I c	Holme-next-the-Sea	TF 7043	KLM A.9	greenstone	*
71		p-h	Saxlingham Nethergate	TM 222963	NCM 426.964	quartzite	
72		axe, rewkd	Hockwold-cum-Wilton	TL 693877	NCM 511.964	VI	*
73		axe	Deopham?	TG 0500?	NCM 1968.3	VIII	
74		axe	Holme Hale	TF 664079	NCM 169.959	VII	
75		axe, fr	Nethwold	TL 653965	NCM 242.970	altered rhyolite	*
76		axe, pt	Snettisham, Preece's Field	TF 675333	NCM 225.957	VI	
77		axe	Wymondham, Wattlefield	TG 1001?	NCM 202.959	tuff	
78		axe, unpolished	Snettisham, ? Park Farm	TF 6933?	NCM 99.927	dolomite mudstone	*
79		axe, fr	Hockwold-cum-Wilton	TL 693877	NCM 511.96	VI	*
80		axe, fr	Barton Bendish	TF 737043	PP	VI	
81		axe	Caister by Yarmouth area	TG 5112?	NCM 188.954	XX	
82		axe, fr, rewkd	Feltwell	TL 701916	NCM 19.961	VI	
83		b-a, II, pt	Hunstanton, Redgate Hill	TF 680401	NCM 125.954	XVIII	*
84		axe	Saham Toney, Barrell's Fm	TF 8902	NCM 120.963(26)	I	
85		b-a, IV, grooved	North Lopham	TM 032833	NCM 153.955	XVIII	
86		P-h, pt perf	Norwich, Mousehold Heath	TG 2410?	NCM 697.971	quartzite	
87		b-a, II b	?Burnham Market	TF 8342?	NCM 206.951(7)	sandstone	
88		b-a, II b	Holme-next-the-Sea	TF 7043	NCM 206.951(6)	dolerite	
89		a-h	Hackford	TG 0502?	NCM 155.929	XVIII	*
90		a-h	East Bilney Hall	TF 9419	NCM 169.951	sandstone	
91		mace	Sheringham	TG 1543?	NCM 814.968	quartzite (ns)	
92		axe	Cromer cliffs	TG 231416	NCN 110.966	VI	
93		a-b	Binham	TF 9839	PP	XVIII	
94		a-h	Hingham	TG 016002	NCM 231.966	XVIII	
95		a-h	Necton/Holme Hale	TF 8808?	NCM 59.28	XVIII	*
96		a-h, pt	Edingthorpe	TG 303307	NCM 68.948	XVIII	*
97		b-a, II b	Tasburgh	TM 2095	NCM 76.94(834)	XVIII	*
98		a-h	Tasburgh	TM 2095	NCM 177.27	sandstone	*
99		a-h	Paston	TG 3234	NCM 67.933	XVIII	
100		a-h	Norwich, Eston	TG 2005	NCM 83.24	XVIII	
101		a-h	Wendling, Hulver Street	TF 933121	NCM 81.944	near XIX	
102		a-h	North Creake	TF 823366	NCM 4.959	XVIII	
103		a-h	Alby-cum-Thwaite	TG 190329	NCM 139.951	XVIII	*
104		a-h	Southery/Brandon Creek	TL 6193	NCM 217.968	XVIII	
105		a-h adze ?	Warham St Mary	TF 925415	NCM 319.958	XVIII	
106		a-h	Wretton	TL 6999	NCM 22.08(67)	olivine dolerite	
107		b-a, I b	Wiggenhall St Germans	TF 584138	NCM 44.952	quartzite	
108		b-a	Norfolk	-	NCM 76.94(835)	near XVIII	
109		a-h	Postwick Grove, R. Yare	TG 2806	NCM 160.938	dolerite	*
110		mace, ovoid	Briston	TG 0632	NCM 127.14	quartzite	
111		mace, Thames pestle	Rockland All Saints/Shropham	TL 9894?	NCM 813.968	quartzite	*
112		mace, pt	Thetford, Little Ouse R.	TL 852866	NCM 240.960	XVIII	
113		p-h	Stalham, Wayford Wood	TG 3426	NCM 45.72	sandstone	*
114		axe	Norfolk	-	NCM 76.94(851)	VI	
115		axe	Heacham	TF 663377	KLM 120.967	VII	
116		axe	Sea Palling beach	TG 4327	NCM 19.16	tuff or ash	
117		axe, fr	Hockwold-cum-Wilton	TL 694875	NCM 571.965	chiastolite elate	*
118		axe, fr	Corpusty	TG 107827	NCM 379.970	VI	
119		axe	Weeting, Brickkiln Fare	TL 7889	NCM 142.961(622C)	VI	
120		axe, fr	Feltwell	TL 744914	NCM 142.961(695C)	xx	
121		axe	Weeting, Pengate	TL 7688	NCM 142.961(116D)	VII	
122		axe	see note	-	NCM 142.961(126D)	greenstone	*
123		axe	Hockwold-cum-Wilton. Blackdyke Farm	TL 6888	NCM 142.961(2L)	VI	
124		u s	Hockwold-cum-Wilton	TL 729871	NCM 142.961(21L)	tuff or ash	
125		axe	Wreningham, Fir Grove Fm	TM 156998	NCM 1970.1	XVIII	
126		axe	Wreningham, Fir Grove Fm	TM 154995	NCM L.1970.2	VI	
127		mace, ovoid ?	Tilney St Laurence	TF 565157	PP	olivine dolerite	
128		axe	East Somerton	TG 466181	PP	non-ophitic quartz dolerite	
129		a-h	Ickburgh	TL 330968	PP	XVIII	
130		axe	Cranwich	TL 7894	CUM 09.100	greenstone	
131		axe, pert	Norwich, Cedar Road	TG 244081	NCM 337.971	xv	*
132		axe, II l	Saham Toney	TF 8902	NCM 120.963	garnetiferous pyroxene	
133		axe, I b	Thetford	TL 8783	BM Sturge Coll.	jadeite	
134		axe, pt, rewkd	Titechwell beech	TF 758451	PP	VI	
135		axe		TG 417027	PP	quartz dolerite	
136		mace	Titchwe11 beach	TF 758450	PP	greYWacke	
137		b-a, I c	Tottenham	TF 6411?	NCM 476.970	XVIII	*
138		hammer, perf	Colney area	TG 1807?	NCM 381.970	xx	
139		s-h adxe	'Sprowston'	TG 266112	P.P.	olivine dolerite	*
140		axe	Southery	TL 618960	NCM 207.971	greenstone	
141		mace pt	Caistor by Norwich	TG 252032	pp	greenatone	
142		axe	Denver	TF 613023	pp	greenstone	*

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
143		axe fr	Brampton	TG 221233	PP	VII	
144		axe	Southery	TL 628948	PP	VI	
145		axe. I a	Bergh Apton	TM 310990	NCM L. 1971.27	Jadeite	
146		axe	Newton by Castle Acre	TF 8315	PP	VI	
147		axe	Easton	TG 130111	PP	dolerite	
148		bracer	Hockwold-cum-Wilton	TL 694876	NCM L. 1968.1	hornstone	*
149		bracer. pt	Hockwold-cum-Wilton	TL 696876	PP	hornstone	*
150		axe, III b	Feltwell Fens	TL 6590?	NCM 535. 971(5)	garnetiferous pyroxene	
151		axe	Tuttington	TG 211264	PP	XX	
152		axe	Tottenham	TF 636100	KLM 74.962	xx	
153		flake	Feltwell	TL 686904	NCM 210.963	VI ? (ns)	*
154		axe	Stoke Ferry	TL 7099	CUM Z 15394	Pine grained tuff	
155		axe	Barton Bendish	TF 730040	P P	I	
158		axe	Barton Bendish	TF 709063	KLM 55.972	epidiorite	
157		axe	Methwold Severalls	TL 683964	KLM 52.972	epidiorite	
158		rubber	Brampton	TG 224237	PP	sarsen ? (silica cemented aand-stone)	*
159		axe	Methwold	TL 692934	PP		
160		axe	Feltwell	TL 691900	PP	xx	
161		axe, rewd	Feltwell	TL 697905	PP	tuff	
162		axe	Feltwell	TL 691905	PP	XVIII	
163		axe. pt	Feltwell	TL 699925	PP	epidiorite	
164		axe	Feltwell	TL 694902	PP	VI	
165		axe. fr	Feltwell	TL 691899	PP	VI	*
166		axe	Hockwold-cum-Wilton	TL 713884	PP	XIX ?	
167		axe	Hockwold-cum-Wilton	TL 697875	PP	VI	
168		axe	Hockwold-cum-Wilton	TL 696879	PP	near I	
169		axe	Hockwold-cum-Wilton	TL 687878	NCM 203.972	epidiorite	
170		axe	Hockwold-cum-Wilton	TL 687875	NCM 204.972	schistose grit with albite porphyroblasts	*
171		axe, pt	Feltwell	TL 701917	PP	xx	
172		mace. pt	Hockwold-cum-Wilton	TL 689885	PP	xx	
173		mace	Norfolk	-	PP	dolerite	*
174		hammerstone	Norfolk	-	PP	quartzite	*
175		pebble, pt perf	Norfolk	-	PP	quartzite	*
176		pebble. utilised	Norfolk	-	PP	trachyte	*
177		pebble, utilised	Norfolk	-	PP	quartzite	*
178		hone, pt	Methwold	TL 692934	PP	lithic sandstone	
179		p-h, pt pert	Norfolk	-	PP	quartzite	*
180		p-h	Feltwell	TL 706912	PP	quartzite	*
181		p-h	Norfolk	-	PP	quartzite	*
182		rubber	Norfolk	-	PP	quartzite	*
183		polisher	Hockwold-cum-Wilton. Fens	TL 682878	PP	quartzite	
184		s-h adze, pt	Norfolk	-	PP	near XVIII	*
185		rubber	Norwich, Eaton	TG 2006	NCM 108. 954(62)	quartzite	*
186		a-h, Ia	Rollesby?	TG 4415	Bedford 69/B/74	near XVIII	*
187		a-h adze	Bressingham	TM 086832	PP	greywacke	
188		axe	Diss. Heywood	TM 123857	NCM 343.973	I	
189		axe	Feltwell	TL 7190	PP	I	
190		pounder, pt	Feltwell	TL 7190	PP	quartzite	
191		a-h adze	Burnham Market	TF 8342	PP	greywacke	
192		p-h	Burnham Market	TF 8342	PP	greywacke	
193		p-h	Pulham Market	TF 196860	PP	greywacke	
194		b-a, II	Sparham. Sparham Common	TG 073179	PP	XVIII	
195		a-h	Wood Dalling	TG 093280	PP	chlorite biotite schistose grit with albite porphyroblasts	
196		p-h	North Pickenham, The Green	TF 864069	PP	quartzite	*
197		a-h	Wood Norton	TG 016279	NCM 503. 974	gabbro	
198		axe	Thetford	TL 8783	Thetford Mus	oolitic limestone	
199		axe	Gooderstone	TF 781031	PP	banded amphibolite with brown hornblende	
200		s-h adze	Denton	TM 2887	Bungay	epidiorite	
201		a-h, Ia	Castle Acre	TF 8115	Spalding Gent Soc	XVIII	*
202		a-h	Castle Acre	TF 8113	Spalding Gent Soc	olivine dolerite	*
203		b-a	Kelling. 'Lower Kelling'	TG 0843	Spalding Gent Soc	gabbro	*
204		mace, Thames pestle	Bacton, beach	TG 3434	Spalding Gent Soc	I	*
205		axe	Alby-cum-Thwaite?	TG 1933?	Spalding Gent Soc	XVIII	*
206		axe	Bacton?	TG 3333?	Spalding Gent Soc	altered diorite	*
207		axe	Overstrand, foreshore	TG 2541	Spalding Gent Soc	XVIII	*
208		mace	South Repps	TG 247362	PP	quartzite (ns)	
209		p-h	Ditchingham. Fen Farm	TM 315917	PP	sandstone	
210		a-h	Knapton	TG 299329	PP	coarse crystal tuff	
211		mace ?	Holkham?	TF 8743?	PP	porphyritic basalt	*
212		axe	Brinton	TG 038356	NCM 70.979	ophitic gabbro	*
213		adze	Thetford. Nuns Bridges	TL 874826	PP	greenstone	*
214		a-h, II	Feltwell	TL 649872	PP	XIV	
215		s-h adze	Hockwold-cum-Wilton	TL 690865	Bury F172	ophitic gabbro	
216		p-h, pt perf	Northwold, Cottage Farm	TL 715985	PP	quartzite (ns)	*
217		pebble mace. pt	Hunstanton. Redgate Hill	TF 678398	NCM 60. 986	Totternhoe stone	
218		deleted	unprovenanced (U/P 3)	-	-	-	
219		a-h	Sisland	TM 350989	PP	greywacke	*
220		a-h	Worstead	TG 305265	PP	unidentified (ns)	
221		axe	Aldeby	TM 460935	NCM L. 1979.13	pyroxene (jadeite)	*
222		axe ? . pt	Great Ryburgh	TF 948284	PP	gabbro	*
223		a-h	Croxton	TL 867884	PP	gabbro	
224		axe	North Elmham, nr. Spong Hill	TF 976194	PP	I	
225		axe	Acle	TG 399096	NCM 225.977	greenstone	
226		b-a	Shouldham. Abbey Farm	TL 680095	PP	dolerite ?	
227		a-h adze	Norwich, Earlam	TG 196072	PP	quartz porphyry	
228		s-h adze ?, pt	Sedgeford	TF 710363	NCM	XVII	*
229		a-h	Swaffham	TF 818102	PP	XVIII	*
230		axe, miniature	S W Norfolk	-	NCW 124.977(69)	actinolite fels	
231		axe. fr	S W Norfolk	-	NCM 124.977(69)	VI	

No	Ser.	implement	Locality	M.G.R.	Accession	Petrology	Note
232		pebble, polished	Weeting with Brooshill	TL 7789	NCM 142.961	sandstone	
233		mace	?Thetford. River Thet	TL 8783?	Thetford T.977.65	quartzite	
234		axe	Grimston	TF 762218	PP	I	
235		axe	Wretham Fen	TL 9190?	CUM R1892 1A	VII	*
236		axe pt	Wretham Fen	TL 9190?	CUM R1892 IB	tuff	*
237		axe. pt	Weeting with Broomhill	TL 7789	CUM 60.426	xx	
238		mace	Besthorpe	TM 079969	NCM 93.979	quartzite	
239		axe	Cawston, Beerhouse Farm	TG 140225	PP	I	
240		axe	Pentanev	TF 730130	PP	xx	
241		axe	North Walsham	TG 909300	PP	VI	
242		axe	Wendling	TF 937133	PP	tuff	
243		axe, Pt	B Dereham, Whitehouse Farm	TG 021123	PP	VI	
244		Me. pt	Fransham	TF 900131	NCM 86.983	I	
245		a-h	Shropham	TL 979946	PP	quartz biotite andalusite schi-	*
						at	
255		axe	Gt Snoring	TF 9334	PP	xx	
257		mace	Feltwell	TL 687923	PP	puddled chalk	

Suffolk

N0.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Lakenheath, Parson's Grove	TL 7182	CUM 39.719	I	
2		axe, fr	Ipswich	TM 14	IM 1942.47.m	siltstone	
3		axe, pt perf	Blakenham	TM 1150	IM 1942.64	greenstone	*
4		axe, pt perf	Sutton	TM 3046	IM 1942.63	II	
5		axe	Lound Run waterworks	TG 5000	IM 1933.205	I	*
6		axe	Southwold	TM 5076	IM 1926.93	basalt	*
7		axe	Ipswich. Orwell Works	TM 171438	IM 1935.62	VI	
8		a-h	Southwold beach	TM 5176	IM 1926.92	basalt	
9		axe	Mildenhall	TL 7174	IM 1935.214	tuff or greywacke	
10		axe	Waidringfield	TM 2844	IM 1935.68.46	basalt	
11		axe	Burgh. nr Woodbridge	TM 2252	IM 1935.68.41	I	
12		axe	Grundisburgh	TM 2251	IM 1935.68.42	dolerite	
13		axe	Martlesham. Alderidge's Farm	TM 2646	IM 1935.68.51	near I	
14		b-a, III c	Lothingland	TG 5000	NCM 120.957	hornblende granulite	*
15		a-h adze. pt	Mildenhall, Beak Row	TL 6977	Bury ex NCM 33.947(6)	epidiorite	*
16		a-b	Martlesham	TM 2646	IM ex NCM 76.94(833)	quartzite	
17		b-a, II, fr	Icklingham sands	TL 7772	Bury ex NCM 33.947(7)	XVIII	
18		mace, Thames pestle. fr	Mildenhall	TL 7174	NCM 33.947(6)	quartzite	
19		p-h	Icklingham	TL 7772	Alton Museum	quartzite	
20		axe	Freckenham	TL 6671	Bury E.99	I	
21		axe	Cavenham	TL 767692	PP	olivine basalt	
22		a-h	Bentley, Rookery Farm	TM 125372	IM 1948.217	ophitic dolerite	
23		axe	East Bergholt	TM 0734	IM L.1948.255	greenstone	*
24		axe pt	Bucklesham	TM 218423	IM 1951.205	slate or tuff	
25		mace	Capel. nr railway station	TM 1038	IM 1933.114	greenstone	*
26		mace	Copdock	TM 1242	IM 1940.80	ophitic dolerite	
27		a-h	Ipswich	TM 1645	IM 1920.17.101	ophitic olivine dolerite	*
28		mace	Eye	TM 1473	NCM 29.64	quartzite	
29		rubber	Wherstead	TM 1640	IM ex NCM (76.94(817)	rhyolite	
30		axe	Clare Common	TL 7645	Bury E.40	XVI ?	*
31		axe, III a	Fakenham Magna	TM 904774	Bury E.27	jadeite	
32		axe	Icklingham	TL 7772	Bury E.248	epidiorite	*
33		a-h. unperf	Icklingham, Berners Heath	TL 790765	Bury F.108	XVIII	
34		axe	Lakenheath	TL 7182	Bury E.235	non-ophitic dolerite	
35		axe	Lakenheath	TL 730815	Bury E.238	I	
36		axe	Lound Run	TG 506009	NCM 438.959	xx	*
37		axe	Mildenhall	TL 7174	pp	VII	*
38		flake	Mildenhall, Hurst Fen	TL 726768	CUM	VI	*
39		flake	Mildenhall, Hurst Fen	TL 726768	CUM	VI	*
40		flake	Mildenhall. Hurst Fen	TL 726768	CUM	VI	*
41		axe	Trosten	TL 9072	AM 1927.3716	serpulite	*
42		axe	Troston	TL 9072	AM 1927.3814	rerpulite	
43		axe, III a	nr Woodbridge	TM 2749?	IM ex NCM 57.935	jadeite	
44		axe	Sproughton	TM 1245	IM ex NCM 76.94(814)	I	
45		mace, pt	Ipawich. Branford Road	TM 1445?	IM 1936.94	greywacke	
46		mace	Mildenhall	TL 7174	IM 1948.234	XVIII	
47		b-a, II c	Laxfield. Street Farm	TM 2972	IM 954.121	rhyolitic tuff	
48		mace	Stratford St Mary	TM 0534	IM 954.53	altered sedimentary rock	
49		p-h, pt perf	Great Bealings	TM 2348	IM 1935.215.7	quartzite	
50		mace, pt	Westerfield	TM 1747	IM 1946.181.72	XVIII	
51		axe	Wyverstone	TM 0467	IM 1952.264	greenstone	*
52		axe. Pt	Ipewich, Crescent Road	TM 157448	IM 1950.55	greenstone	
53		axe pt	Lound	TM 5098	IM 1933.205 K	I	
54		axe	Martlesham	TM 2646	IM 1946.181.68	VI	
55		axe fr	nr Woodbridge	TM 2749?	IM 1935.68.S7B	non-ophitic dolerite ?	
56		axe, miniature, 111 a	nr Woodbridge	TM 2749?	IM 1935.68.38B	jadeite	
57		axe	Brantham	TM 125338	IM 1955.143	I	
58		axe	Wherstead	TM 1640	IM 1935.61	volcanic ash	*
59		axe	Hitcham	TL 9851	IM 1949.202.38	VII	
60		axe pt. rewdk ?	Woodbridge	TM 2749	IM 1941.114	VI	
61		mace	Melton/Sutton, Wilford Br	TM 291501	IM 1939.181	olivine dolerite	
62		a-h adze	Leiston/Theberton. West Fm	TM 412631	IM 954.101.3	non-ophitic dolerite	
63		P-h. pt perf	Great Bealings	TM 2348	IM 1935. 68. 48	metamorphosed sandstone	
64		mace	Grundisburgh	TM 2251	IM 1935.215.12	ophitic dolerite	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
65		axe	Lound Run	TG 5000	IM 1933.205	VI	*
66		mace, ovoid	Lakenheath	TL 7182	IM 959.277b	olivine dolerite	
67		rubber	Mildenhall. Beck Row	TL 6977	IM 959.277C	quartzite	
68		axe	'Mildenhall'	TL 7174	CUM Z 14901	IX	
69		axe	Mildenhall. Kenny Hill	TL 6780	CUM 27.496	greenstone	
70		axe, pt	Lakenheath. Redmere	TL 7182	CUM 1912.107	devitrified rhyolite	
71		axe	Foxhall	TM 222427	pp	altered rhyolite	*
72		axe	Mildenhall	TL 7174?	IM 965.89.85/3	dolerite or greenatone	*
73		a-h	Lakenheath	TL 704805	Bury F.162	XII	
74		polisher	Mildenhall. West Row	TL 6775	Bury E-423	VIII	
75		axe	Mildenhall. West Row	TL 6775	Bury E.106	VI	
76		axe	Clare	TL 7645	Bury E.71	greenstone	
77		axe	Risby	TL 775682	Bury E.79	VI	
78		axe	Lakenheath. Undley Fen	TL 700810	Bury E.123	VI	
79		axe	Kentford/Kennet (Cambs.)	TL 7066	Bury E.221	VI	*
80		axe	Icklingham. Canada Parm	TL 772762	Bury E.590	greenstone ?	
81		axe, fr	West Stow	TL 797714	Bury	greenstone	*
82		axe, grooved	Lound Run waterworks	TG 5000	NCM 33.947(5)	acid ash	
83		axe, pt	Cavenham	TL 7669	CUM Z 15348	I	
84		wedge ?	Palgrave	TM 1178	pp	XVIII ?	
85		axe, l b	Hopton, Lound Ponds	TG 5000	BM 1933.10-9.1	amphibole (nephrite ?)	
86		axe, rewk'd	nr Nayland	TL 9734?	CM 3536.17	VI	
87		a-h	Peasenham	TM 355707	IM 969.77	greenstone	
88		a-h	Kesgrave	TM 226452	IM 969.86	XVIII	
89		axe, pt	Mendlesham	TM 104657	IM 970.12	greenatone	
90		axe	Eriswell	TL 7278	CUM 1908.183	I	
91		axe, rewk'd	Icklingham. Canada Farm	TL 7776	CUM 215387 A	VII	
92		axe	Icklingham	TL 7772	CUM Z 15387 B	quartz dolerite	
93		axe	Icklingham	TL 7772	CUM Z 15387 C	VI	
94		axe	Lakenheath	TL 7182	CUM 1900.433	XIII	
95		s-h adze	Lakenheath	TL 7182	CUM 1902.87	dolerite ?	
96		axe	Lakenheath	TL 7182	CUM 51.388	I	
97		mace	Lakenheath	TL 7182	CUM 46.387	tuff	
98		axe	Herringswell	TL 7169	CUM Z 15388	VI	
99		axe	Lakenheath. North Fen	TL 736843	Mildenhall Mus.	I	
100		axe	Fakenham Magna	TL 905765	Bury E. 522	dolerite	
101		axe	Mildenhall Pen	TL 6678	Bury E.191	xx	
102		axe	Kelsale	TM 369652	IM 1971.124	epidiorite or greenstone	*
103		misc. core ?	Mildenhall. Hurst Fen	TL 726768	CUM	VI	*
104		axe, fr	Mildenhall. Hurst Fen	TL 726768	CUM	VI	*
105		flake	Mildenhall. Hurst Fen	TL 728768	CUM	VI	*
106		flake	Mildenhall. Hurst Fen	TL 726768	CUM	VI	*
107		flake	Mildenhall. Hurst Fen	TL 726768	CUM	VI	*
108		flake	Mildenhall. Hurst Fen	TL 726768	CUM	VI	*
109		flake	Mildenhall. Hurst Fen	TL 726768	CUM	VI	*
110		flake	Mildenhall. Hurst Fen	TL 728768	CUM	VI	*
111		axe	Kedington	TM 703468	PP	amphibolite with brown hornblende	
112		axe, pt	Brantham	TM 1134	PP	sands tone	
113		mace, pt	Brantham	TM 1134	PP	sandstone	
114		axe, pt	Earl Soham	TM 2363	PP	gabbro	
115		chisel	Lowestoft, Normanston	TM 5393	NCM 21.09	dolerite	
116		axe	Mildenhall Fen	TL 6678	CUM 51.468B	quartz sandstone	
117		axe	Mildenhall Fen	TL 6678	CUM 51.468C	coarse tuff	
118		axe	Mildenhall Fen	TL 6678	CUM 51.3878	quartzite	
119		axe	Mildenhall	TL 7174	CUM 24.947	quartz dolerite	
120		axe, rewk'd	west stow	TL 8170	CUM 215395	VI	
121		b-a	?Stowmarket	TM 0458	NCM 242.981	XVIII	*
122		axe	Creething St. Mary. Creething Hill	TM 0955	PP	I	
123		axe	Stutton	TM 151348	PP	coarse tuff	
124		axe	Sudbourne	TM 435541	I M 1973-82	near I	
125		axe	Lakenheath	TL 7182	CUM 1901.57	quartzite	
126		adze, pt	Bury St Edmunds	TL 8564	Thetford	altered tuff	
127		adze	Saxmundham	TM 3863	Leeds D.145.1964	greywacke	
128		exe	?Elvedon	TM 8379?	CUM 72.172	fine grained limestone with shell fragments	
129		axe	Lound	TM 5098	PP	VI	
130		a-h	Denham	TL 765625	Bury F135	XVIII	
131		a-h	Brandon, Lime Kiln Farm	TL 738865	Bury F188	XVIII	
132		a-h	Wickhambrook	TL 7554	Bury F204	XVIII	
133		axe	Mildenhall. West Row	TL 6775	Bury E. 225	altered dolerite	
134		mace, pt perf	Layham	TM 007418	Bury 1975-17	XX	
135		mace, pestle, fr	Mildenhall. West Row Fen	TL 661774	PP	quartzite	*
136		axe, fr	Mildenhall. West Row Fen	TL 663774	PP	VI	*
137		a-h	Mildenhall. West Row Fen	TL 668774	PP	XVIII	*
138		pebble mace ? pt perf	Mildenhall. West Row Fen	TL 662775	PP	garnetiferous amphibolite	*
139		axe, flake	Mildenhall. West Row Fen	TL 661774	PP	unidentified (ns)	*
140		axe, flake	Mildenhall. West Row Fen	TL 653760	PP	unidentified (ns)	*
141		axe	Mildenhall. West Row Fen	TL 662770	PP	VII	
142		axe	Mildenhall. West Row Fen	TL 656778	PP	VII	*
143		pebble mace	Mildenhall. West Row Fen Hayland	TL 653772	PP	XV	
144		pestle ?	drove				
145		mace or s-h adze	Mildenhall. West Row Fen	TL 656767	PP	metatuff	*
146		axe	Mildenhall. West Row Fen	TL 662774	PP	quartzite	
147		mace	Mildenhall. West Row Fen	TL 658769	PP	greens tone	*
148		axe, fr	Mildenhall. West Row Fen	TL 653760	PP	xv	
149		axe	Mildenhall. West Row Fen	TL 662770	PP	VI	*
150		axe	Mildenhall. West Row Fen	TL 662775	PP	ophitic gabbro	*
151		axe	Lakenheath area	TL 7182	PP	unidentified (ns)	
152		axe	Ipswich. Handy Close	TM 185448	IM	tuff	
153		axe	Mendlesham	TM 1065	PP	pyritous siltstone	
154		axe	Tuddenham	TL 7371?	CUM Z17273	XVIII	*
			Elvedon	TL 8379	CUM 1900.19	XXIII a	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
155		axe, p t	Cookley	TM 3475	p p	greenstone	
156		axe, p t	Moulton	TL 688645	p p	XX	
163		axe	Mildenhall, Warren Hill	TL 7474	Luton108/47/64	VI	
164		axe	Suffolk	- -	Liverpool254/200	olivine dolerite	
165		axe	Lakenheath	TL 7182	Manchester02685	altered andesite	
166		flake	Worlington, Swales Tumulus	TL 699714	Mildenhall	VI	
167		axe	Lakenheath	TL 7182	Mildenhall, Lady Briescoe Coll	greenstone	

Notes

Cambridgeshire

No.	Note
8	Very similar to specimens from Kenidjack, Cornwall (Sanderson 1970, 99).
13	Somewhat similar to specimens from the Lizard Peninsula, Cornwall (IGS), Evans 1897, 125.
14	Sanderson 1970, 87 Previously assigned to Group XVI (FSW)
17	Associated with ogival bronze dagger in Wessex culture burial (Leaf, 1935, Pl. IX).
18	References in Evens et al 1962
19	CUM records give the find spot as 'Stonea, near Bottisham' but the only Stonea in the area is at this grid reference in Wimblington parish
29	Evans 1897, 200.
31	Described as 'perhaps an axe-hammer originally, broken through the perforation, and re-bored at right angles to the original hole for use as a hammer-head broke again' (information from Mrs. J. Crowfoot Payne, Ashmolean Museum, 1971).
32	Similar to E 28 (IGS).
33	Could be derived from SW England (IGS).
36	From a fen drain 'near old County boundary'
45	The shape is one typical of Langdale (Group VI) products: FSW states: 'a rather featureless rock of rhyolitic composition, and it is possible that it would be found in the Lake District amongst the Borrowdale Volcanics'
47	This is the Cumbrian axe published by Fell (1964) 39 ff, fig. 1).
48	Compared by FSW with group X (Seledin, Plussulien); thin section also examined by C. T. le Roux in 1971, who has reported that the rock is not the Type A dolerite from that site
66	The source for markfieldite is in the region of Charnwood Forest, Leicestershire (Evens et al., 1972, 224)
70	Actually in West Suffolk, Mildenhall parish
98	The axe also bears a label describing its findspot as Bottisham Fen.
108	Surface find on ancient river bank, near peacock's Farm
133	In orchard No 45 on tithe map,
137	Near Great North Road (A1)
141	Found while field-walking, associated flint scatter, with leaf arrowhead and plano convex knife, waste material mainly blade industry.
145	Lynch Farm Excavations 1972 (Challands 1973), no evidence for date.
146 See above	
149	Found 1911 in an old oak tree buried in the ground
159	Fengate excavations 1972, vicarage Farm site.
160 See above	
161	Fengate excavations 1972, Padholme Road site (Pryor 1974).
164	From barrow destroyed in gravel digging, with two flint daggers (Leeds 1911-12, 82-3, figs 2a and 2, Roe 1966, No. 151, wrongly under Nottinghamshire, Roe 1979, 42 and fig 1 as CAM-).
166	Fengate excavations 1974.
167	Fengate excavations 1973
170	or TL 0799

Essex

No.	Note
15	Similar to olivine basalt of Dalmeny type from Edinburgh (Sanderson 1970, 99)
24	Longworth, Wainwright & Wilson, 1971, 121, associated with grooved ware and flints
28	Similar to Cam 32 (IGS)
37	or TL 92
38	Strictly outside the area covered by this report but included for the sake of completeness
42	Trans Essex Arch Soc, 3rd ser 2, III, (1970), 338 f
45	Delivered in load of Thames gravel
50	found in Hazelmere Road in topsoil probably from King John School Shipwrights Drive, NGR as given

Norfolk

No	Note
1	Part of a Cumbrian type of axe, found in a heap of building material PPSEA, 1, 1911 188
2	PPSEA, 1 1914, 490
3	PPSEA, 7 1934 430
4	Not a normal British type, origins unknown
7	Found in use as a doorstep in an army camp, compared with to ck from Schleswig Holstein, Ant J., 23 1943 154 figured
9	PPSEA, 7, 1934, 430, where thought to be Maori although found at Burgh St Peter
11	CANCM, 1909, no 113, where described as Maori
12	CANCM, 1909 no 64, where wrongly said to be flint
18	Evans, 1897, 125
21	Evans, 1897, 142 fig 90A
22	Found on a stone heap on Denton Road,
24	TL 6999 or TF 6801
29	Matches a diabase from Milton Abbot. Devon (IGS)
32	Similar to fourth Report no 246 from Shephall, Herts (FSW)
33	Dredged from an oyster ground north of Holme-next the-Sea, near the Woolpack Sand, Lat 53 2' 30", E. Long. 0 35' 00". the greenstone is probably Cornish (FSW)
34	Found in a blacksmith's shop
47	From Greenwell's Pit at Grime's Graves (Clark & Piggott, 1933, 170f.. fig 4, where described as Basalt)
48	Found by Lingwood, floor 15. grimes Graves (Peake, 1917, 431, Fig 84)
54	Could be derived from SW England (IGS)
57	Surface find from a Beaker domestic site at Hockwold-cum Wilton, Field 79, next to the Poor Ground
58	From the same site as N57: could be derived from SW England (IGS)

NO.	Note	185	part of the Eaton Late Bronze Age hoard which belongs to the Carp's Tongue complex of the Ewart Park phase (Norfolk Museums service 1977. 33-4),
59	Ant , 1923 369. figured	186	Found in a house near Bedford. but recorded as coming from Rollesby
61	Said to come from Coronation Avenue. Sandringham Estate. in 1902 (NCR TF 7329 or TF 6930),	197	Found In rocky of garden on Foulsham Road. probably secondary context
68	Found in an office in Downham Market.	201	A C Savin Coll 73
70	Transactions of the Norfolk and Norwich Naturalists' Society. 8. 1907. 404	202	A C Savin Coll 74
72	From a Beaker domestic site. Hockwold Poor Ground	203	A C Savin Coll 116.
75	Similar to s 71 (FSW)	204	A C Savin Coll 119, Roe (1979) 35
78	The nearest source of such material is the Jurassic strata of Lincolnshire. whence it may have been transported by glacial action (IGS),	205	A C Savin Coll 111 Recorded as Althby. possibly Alby near Cromer where Savin lived
79	From a Beaker - domestic site. Hockwold Poor Ground	206	A C Savin Coll Purchased at sale at Bacton Labelled "Fly River" Perhaps Cley River. , e R Glaven. but there Is a Fly River in Papua New Guinea!
83	Found near the perimeter of one of two ploughed-out barrows	207	A C Savin Coll 69
89	There- IS another Hackford in Reepham parish. TG 0722. but the one indicated here is more likely	211	Found among the effects of a Holkham Estate worker. possibly found in the area
95	Evans. 1897. 202	212	Found under the footings of a flint wall. uncertain If in context or if built into wall
96	Broken at the perforation. a second perforation has been started from each side Surface find from domestic site yielding flint implements Late Neolithic and Beaker Pottery, and some Bronze Age material	213	Dredged from river Thet. This is one of the Icknield Way crossings
97	Evans. 1897. 200	217	From 1970-1 excavations from layer 1 of posthole 302. part of a small structure relating to a palisaded enclosure Layer contained sherds. some possibly of plain grooved ware and some possibly of rusticated beaker, others unidentified (Healy. Cleal and Kinnes forthcoming)
98	Evans, 1897 200	219	Found near river in peat up to 20 feet deep
103	Another perforated implement was recorded from the sane field 111 1947	221	Jones Bishop & Woolley 1977, no 103
109	Dredged from the river in 1935. when found. the axe hammer was fixed to part of the haft with leather thongs. but these perished on exposure to the alt	222	Slightly dimpled. perhaps an incomplete perforation
111	Evans, 1897, 223. fig. 150	228	From 1958 excavation. found in abdominal region of Inhumation VIII. probably of 11th/12th century A D date (32. J10 21 I. unpublished
113	Evans 1897 440	229	Flint scrapers reported from same field but not seen in NCM
117	From a Beaker occupation floor (NCM find 93) at Hockwold, Field 79 next to the Poor Ground	235	Wretham Fen cannot be identified on modern O S maps. perhaps it was an area around one of the meres
122	Neither the finder nor the findspot is recorded in the usually n meticulous catalogue to the Parrott Collection from which N 119-24 come, but it is highly probable that it comes from the Weeting/Hockwold/Feltwell area	236	See above
131	Found built into the back of a fire-place with two flint axes	245	Dr Cummins reports that this implement was probably made from an erratic originating in the N E part of the Dalradian outcrop in the Scottish Highlands
137	Found in a gravel Pit: a Beaker type flint dagger was found in, the same place. and it seems likely that these are all that remain of a Beaker burial	Suffolk	
139	Found with other axes buried at the foot of a tree in a garden, probably thrown out from a private collection in the recent past	NO	Note
142	Found In a lay by beside a road		
148	Made of n material similar to hornstone from the Beacon Hill area of Charnwood Forest. Leicestershire (IGS) surface finds from Field 79 next to Hockwold Poor Ground N 148 approximates to Atkinson's type B 1 and the fragmentary N 1149 to his type B 3 (D L Clarke, 1970 570. note 39,	3	The hollows of the part perforation are on the sides
149	See above	5	R R Clarke. 1939. fig 3 11
153	Not sliced; macroscopically appears to be identical to Langdale (Group VI) rock, found with flint flakes. and probably struck at the same time	6	It has been suggested that this is a Scandinavian type
158	Found during excavations by Dr A K Knowles es in Area 101. 1969 Unstratified it may be prehistoric. Roman or re-used	14	This grid reference is roughly the central point of the virtual Island of Lothingland (See also S 36. 65. 82. 85)
165	Rewkd into q lnature flaked axe	15	Could be derived from Devon or Cornwall (IGS)
170	Dr W A Cummins suggests this is probably a Scottish derived glacial erratic	23	Could be derived from Devon or Cornwall (IGS)
173	All are part of the late W F Curtis's collection (Clough & Green 1972. 137-140). Almost certainly they come from Fen edge sites in S W Norfolk., ie from Methwold. Feltwell or Hockwold-cum Wilton	25	Very similar to a diorite from near Cadgwith. Lizard Peninsula. Cornwall (Sanderson. 1970. 99)
174	See above	27	Found with a human skeleton (Nina Layard. East Anglian Daily Times. 29th Feb 1910)
175	Slight depressions on the approximate centre of two faces of each suggest these may be unperforated pebble hammers See also N 173 (note),	30	Similar to Fourth Report no 45 (FSW). which is now Group XVI
176	See above	32	Could be derived from Devon or Cornwall (IGS),
177	See above	36	Now assigned to Group XX (Sanderson. 1970. 97). a Previous IGS report had matched the rock with tuffaceous sediment from the Uriconian Longmyndian of Shropshire
179	All are part of the late W F Curtis's collection (Clough & Green 1972. 137-140). Almost certainly they come from Fen edge sites in S W Norfolk. , ie from Methwold. Feltwell or Hockwold-cum-Wilton	37	'South of Garreg Fawr Quarry. at Garreg Fawr Craggs. a very fine-grained variety of the rock occurs The groundmass has a slightly more andesitic texture than the typical Graig Lwyd This might be established as a sub-group of Group VII' (Sanderson. 1970. 90 f)
181	See above	38	Clark. Higgs & Longworth. 1960 245. Enq 1264, from the Neolithic site at Hurst Fen: see also S 104 10
182	See above	39	See above
		40	See above

NO	Note	NO	Note
41	Evans. 1897. 128. erratic block of serpulite bed from base of Kimmeridge Clay. Lincolnshire. widespread in the glacial drift of East Anglia (ident W J Arkell and K P. Oakley)	135	surface find with Late Neolithic and Beaker pottery and flints Information for S 135 149 supplied by C Pendleton. material not seen at NCM
42 See above		138	Surface find including Late. Neolithic-Early Bronze Age flints and pottery
51	The axe type is extremely close to S 72	139	Small scatter on sandy hillock beaker sherds pebble grinder/polisher and flint scatter
58	The rock appears to be a volcanic ash. greatly indurated: It is not unlike some of the Lake District Horrowdale Ashes (Campbe I I Smith. 1963). but the axe type is quite different from that of most Langdale (Group VI) products	140	Scatter from sandy hillock hammerstones. flakes scrapers early Bronze Age sherds including Breaker material and some possibly earlier Neolithic wares
65	R R Clarke. 1939. fig. 3.1	142	Found on potato harvester Finds in fields include leaf shaped flints
71	Similar to N 75 (FSW)	144	Barbed and tanged arrowhead and saddle quern found "near by".
72	See s 51	146	Surface find with flint scrapers. one leaf shaped arrowhead and mixed early Bronze Age sherds
79	Locality said to be Kennet (Cams) in present Bury St Edmunds records although originally stated to be Kentford (Suffolk). which is a" adjoining parish	148	Surface find with scrapers and leaf shaped arrowhead and mixed early Bronze Age sherds
81	From excavations by S F West on the Iron Age Saxon village at West Stow. small find no 572	149	Surface find with late Neolithic/early Bronze Age flints
101	See also S 38-40. it is not clear which of these later samples (S 103-11) were sectioned (Clark. Higgs & Longworth. 1960. 245. End 1777 1778. 1779) stone axes are described under the heading 'Flint Industry' (ibid 224f). not under 'Stone' (ibid . 227).	153	There' are two Tuddenhams in Suffolk. one near Ipswich at TM 1948 and one in West Suffolk at TL 7371 As the axe is in, Cambridge , it is more likely to, have come from West Suffolk
104-10 See above		166	Briscoe 1957. Kinnes 1979
121	Probably associated with an S 2 beaker Circumstances of discovery unknown		

South-east Midlands

Abbreviations

AshM	Ashmolean Museum, Oxford	HertM	Hertford Museum
BCM	Buckinghamshire County Museum, Aylesbury	LetM	Letchworth Museum
BedM	Bedford Museum	NPM	Northampton Museum
BM	British Museum, London	OCM	Oxford City and County Museum, Woodstock
BradAFC	Bradwell Abbey Field Centre, Milton Keynes	PM	Peterborough Museum
CUM	Cambridge University Museum of Archaeology and Anthropology		

Bedfordshire

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Great Barford	TL 120531	PP	I	
2		axe	Limbury	TL 074240	Luton 159/51	VI	
3		axe	Pavenham	SP 9955	BedM 2629	VI	
4		axe	Kempston	TL 028480	BedM 2623	VI	
5		axe	Bedford	TL 050481	BedM 2625	I	
6		axe	Amphill	TL 0338	BedM 2637	ophitic dolerite	
7		axe	Wyboston	TL 1657	BedM 2661	VI	
8		axe	Kempston	TL 0347	AshM 1927.3358	greenatone	
9		axe	Sandy	TL 1749	AshM 1927.3360	VI	
10		axe	Thurleigh	TL 0558	PP	VI	
11		axe	Luton, Alexandra Ave	TL 0822	Luton 250/36	jadeite	
12		axe	Sandy	TL 1749	BM 1937.11-11.1	I	
13		axe	Bromham	TL 0151	BM WG 499	VI	
14		axe	Putnoe	TL 067512	BedM 70/B/17	quartz dolerite	
15		axe	Elstow Moors	TL 0546	BedM 71/B/119	VI	
16		axe, pt	Biggleswade	TL 1944	BedM 71/B/16	VI	
17		axe	Houghton Regis	TL 0123	BedM 71/B/131	I	
18		axe	Streatley	TL 085285	PP	VI	
19		axe, fr	Dunstable. Icknield Way	TL 038218	Luton 60/65	XX	
20		axe	Luton. Beech Hill	TL 079221	Luton 212/53	tuff	
21		axe	Biggleswade	TL 1944	PP	VI	
22		p-h	Milton Bryan	SP 9730	Luton L/247/39	quartzite (ns)	
23		axe, fr	Dunstable	TL 003222	Luton A121	VII	
24		mace, pt	Dunstable	TL 003222	Luton A122	quartzlte (ns)	*
25		p-h. pt perf	Dunstable	TL 003222	Luton A123	sandstone (ns)	*
26		axe, fr	Barton-le-Clay	TL 085294	PP	VI	
27		axe	Sandy, Girtford	TL 1649	CUM Z 17277	VI	
28		axe	Biggleswade	TL 1944	BedM 66/B/111	XX	
29		axe	Henlow	TL 178391	BedM 1980/9	VI	

Buckinghamshire

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
2		axe, fr	Bledlow. Cop Barrow	SP 773010	BCM 111.57	XXIV	*
a		axe	Iver. Colne Brook	TQ 045805	pp	greenstone	*
4		axe	Chalfont St Peter	TQ 018956	BCM 58.47	VI	
5		axe	Amerden	su 9080	ReadN 72.47	VI	
8		axe	Bierton	SP 851151	AshM 1921.1443	granulite	
8		axe, pt	Whiteleaf	SP 8204	BCM 21.54	VI	*
7		b-a, IV	Marlow	SU 865867	BCM 228.72	altered gabbro	*
8		mace, pt	Hulcott	SP 853166	BCM 47.14	altered porphyry	
9		axe	Boveney Lock, R Thames	SU 9477	London 49.107/149	VI	
10		axe	Shalstone	SP 6436	pp	VI	
11		axe	Haversham	SP 8242	pp	xx	
12		axe, pt	Bledlow	SP 778021	BCM 159.64	greenstone	
13		flake	Downley	SU 8495	pp	altered gabbro	
14		axe	Wingrave	SP 872186	BCM 26.63	sandstone	
15		axe	Olney	SP 895526	BCM 133.62	XXIV	
16		a-h	Water Stratford	SP 6534	BCM	picrite	
17		b-a, III	Prestwood	SU 876997	BCM 16.27	dolerite	
18		axe, fr	Marlow	SU 861873	BCM 160.65	VI	*
19		axe	Aylesbury	SP 8113	pp	altered gabbro	
20		a-b	Kingsey	SP 726069	BCM 40.60	XVIII	
21		adze	Ellesborough	SP 848067	BCM 5.36	chert	*
22		axe, fr	Newport Pagnell	SP 867451	BradAFC 1973/88	VI	*
23		axe	Denham	TQ 050853	pp	unknown (section lost)	*
24		axe	Marlow/Bisham. R Themes	SU 848859	BCM Hambledon loan	andesite	
25		axe, fr	Aylesbury. Walton	SP 822131	BCM Wal 73 (266)A	xx	*
26		axe, pt	Aylesbury. Walton	SP 822131	BCM Wal 73 (314)A	quartrite (ns)	*
27		a-h, pt	Loughton	SP 828389	BradAFC 1973/172	XIV	*
28		axe	Newport Pagnell	SP 882437	PP	basic hornfels	
29		axe	Sberington	SP 898462	BradAFC 1973/90	VI (ns)	
30		axe	Colnbrook	TQ 0277	pp	dolerite	
31		axe	Grendon Underwood	SP 6820	pp	unknown (section lost)	

Hertfordshire

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
2		axe	Shephall	TL 284221	Stevenage 137/60S	dolerite	*
a		axe, fr	Little Gaddesden	SP 9913	pp	spotted slate	
4		b-a, III	Eyeworth. Beds	TL 2544	Ashwell	III	*
5		mace	Datchworth/Woolmer Green	TL 2619	HertM 1391	olivine dolerite	
8		axe	Hoddesdon	TL 3709	HertM 1392	greenstone	
7		axe, fr	Royston (?)	TL 3540?	HertM 1393	VI	
8		axe	Hoddesdon	TL 9709	HertM 1394	greenstone	
9		axe	Hitchin, Whitehill	TL 1928	HertM 1395	dyke rock	
10		adze	unlocated	-	HertM 105	olivine dolerite	
11		mace	unlocated	-	HertM 106	quartzite	*
12		b-a, pt	near Hitchin (?)	TL 1829	LetM 254.67	amphibolite	
13		axe	unlocated	-	LetM 3.67	I	*
14		axe	Hitchin	TL 1829	LetM 5475	IX	
15		axe	Hitchin	TL 1829	LetM 7167	diabase	
16		s-h adze	Watford	TQ 092973	pp	I	
17		p-h	Bishop's Stortford	TL 4821	pp	XV	
18		axe	Letchworth	TL 203325	LetM 5255	quartzite (ns)	
19		axe	Pirton	TL 166324	LetM 854-1976	VI	
20		axe, II a	Knebworth	TL 248202	Stevenage 136/60s	jadeite	
21		axe	unlocated	-	Stevenage 138/60s	greywacke	
22		p-h or s-h adze	unlocated	-	Stevenage 140/60s	oolitic limestone (ns)	*
23		axe	unlocated	-	Stevenage 2/70s	coarse tuff	*
24		axe, I c	Ashwell	TL 2639	BM 1961.7-3.1	jadeite	
25		axe	Hitchin, Duckland	TL 172295	AshM 1927.3495	greenstone	
26		s-h adze	Ashwell. Westbury Pan	TL 2639	Ashwell 494	VI	
27		axe, pt	Ashwell, Bennetts Lane	TL 2541	Ashwell 495-32	I	
28		p-h, pt	Ashwell. Westbury Farm	TL 2639	Ashwell 581	VI	
29		axe	Ashwell. Kingsland Road	TL 2639	Ashwell	quartzite (ns)	
30		axe, II a	Abbotts Langley	TL 119010	pp	xx	
			Standon	TL 413212	pp	jadeite	

Northamptonshire

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe. pt	nr Oundle	TL 0389	NpM D22.1960	VI	*
2		axe	Bugbrooke	BP 6757	NpM D120.1954-5	VI	
3		axe, pt	Burton Latimer	BP 9075	NpM D119. 954-5	VI	
4		axe	Duston	SP 7261	NpM D116. 1954-5	VI	
5		axe. pt	Gretton/Kirby	sp 9193	NpM Y96	VI	
6		axe	Gretton	SP 8994	NpM D113.1954-5	VI	
7		axe, pt	Irchester	SP 9266	NpM D110.1954-5	xv	
8		axe	Irchester. Chester House	SP 9166	NpM D112.1954-5	I	
9		axe, pt	Irchester	SP 9266	NpM D111.1954-5	VI	
10		axe	Northampton. St James' End	SP 7460	NpM D108.1954-5	XIV	
11		axe, pt perf	Northampton. Stimpson Ave	BP 7661	NpM D102.1954-5	greenstone	
12		axe	nr Northampton	SP 7560	NpM D105.1954-5	VI	
13		bracer	Upper Heyford	SP 664593	NpM D309.1957-6	rhyolite	
14		omitted	-	-	-	-	*
15		axe, fr	Little Houghton	SP 8059	NpM Y102	VI	

N0.	Ser. Implement	Locality	N.G.R.	Accession	Petrology	Note
16	adze	Northampton, Wentworth Way	SP 762630	NpM D47.1972	dolerite	
17	axe	Northampton Links Estate	SP 7663	NpM 0149.1969	I	
18	axe	Northampton	SP 7560	NpM D68.1958.9	greenstone	
19	adze	Harpole	SP 6960	NpM D127.1954-5	acid tuff	*
20	axe	King's cliffe	TL 0097	NpM Y101	VI	
21	flake	Weston Favell	SP 7962	NpM Y106	tuff	
22	flake	cogenhoe	SP 838599	NpM Y 93	VI	
23	flake	Weston Favell	SP 7962	NpM Y107	VI	
24	flake	chapel Brampton	SP 728645	NpM D65.1973.2	VI	*
25	axe	Milton Malsor	SP 7355	NpM D67.1974	quartz dolerite	*
26	axe, pt	Wollaston	SP 908626	PP	VI	
27	axe, fr	Marston St. Lawrence	SP 535415	NpM D245.1981.1	XX	
28	rubber?, fr	Marston St. Lawrence	SP 5342	NpM D245.1981.2	VI	
29	axe, fr	Marston St. Lawrence	SP 535441	NpM D245.1981.3	tuff	
30	axe, pt	Woodford	SP 969768	PP	VI	*
31	axe, fr	Wakerley	SP 940982	PP	VI	
32	flake	Thenford	SP 523425	NpM D245.1981.4	VI	
33	flake	Thenford	SP 524416	NpM D245.1981.5	tuff	
34	flake	Thenford	SP 527417	NpM D245.1981.6	tuff	
35	flake	Thenford	SP 527417	NpM D245.1981.7	VII	
36	disc, perf, fr	Greatworth	SP 549419	NpM D245.1981.8	siltstone	
37	bracer	Duston	SP 730600	NpW D66.1973	tremolite fels	*
38	b-a, I	Harpole	SP 6960	NpM P11.1937	XVIII	
39	axe	Great Addington	SP 959749	Kettering 1966.25	tuff	
40	axe	Astrop, Buston Farm	SP 5038	AshM 1932.31	greenstone	
41	axe, II a	King's Sutton	SP 4937	AshM 1948.192	jadeite	
42	axe	Flore	SP 642600	NpM D45.1974	greenstone	
43	axe	Nether Heyford	SP 666584	Daventry Sch	VII	
44	axe	Brockhall	SP 6362	Daventry Sch	greenstone	
45	axe, Pt	Daventry, Borough Hill	SP 5862	Daventry Sch	tuff	
46	axe, pt	Broughton	SP 835760	NpM D239.1968	basalt	*
47	axe	Farthingstone	SP 6156	PP	VI	
48	axe, fr	Hardingstone	SP 764574	PP	XXIII a	
49	mace	Gretton	SP 8994	NpM D92.1954-5	granophyre	
50	axe	Towcester	SP 690479	NpM 6947002	VI	
51	axe	Sibbertoft	SP 685812	PP	I	
52	p-h	Islip	SP 979785	NpM D50.1944	quartzite (ns)	
53	p-h	Harringworth	SP 934948	PP	quartzite (ns)	
54	p-h	Bugbrooke	SP 676576	NpM L335	quartzite (ns)	
55	adze, pt	Wellingborough	SP 888680	NpM D50.1957-8	tuff	*
56	p-h	Duston	SP 7261	NpM Y6	quartzite (ns)	
57	p-h	Rothwell	SP 8280	Leicester 136/1952	quartzite (ns)	*
58	p-h, pt	Rushden	SP 9566	NpM D302.1954-5	quartzite (ns)	
59	P-h, pt perf	Ecton	SP 821653	NpM D68.1974.2	quartzite (ns)	
60	axe, pt	Brixworth	SP 742708	NpM D 1.1981	greYWacke	*
61	axe	Brixworth	SP 741700	NpM D1.1981	VI	*
62	s-h adze	Polebrook/Ashton	TL 0687	PM L957	I ?	*
63	axe, pt	Brixworth	SP 741700	NpM D1.1981	VI	*
64	flake	Brixworth	SP 739704	PP	VI (ns)	*
65	mace	Warmington, Eaglethorpe Fm	TL 078916	PM L945	sandstone	
66	flake	Castle Ashby	SP 856609	PP	VI	
67	b-a, II	Desborough	SP 7982	PP	dolerite	
68	s-h adze, pt	Cogenhoe	SP 838599	NpM D97.1958-9	XVIII	
69	axe	Warmington	TL 081911	PP	VI	
70	axe	Deanshanger	SP 762398	PP	banded tuff	
71	axe	Thrapston	SP 997784	PP	VI	
72	axe	Warmington	TL 105914	NpM D69.1974	I	
73	b-a, pt	Potterspury/Yardley Gobion	SP 735443	NpM D63.1979	XIV	
74	axe, fr	Southwick	SP 980933	PP	VI	
75	axe, pt	Southwick	SP 9893	PP	greenstone	
76	axe, fr	Spratton	SP 729691	NpM D1.1981	tuff	
77	axe, fr	Chapel Brampton	SP 729648	NpM D25.1976.11	VI	*
78	flake	Chapel Brampton	SP 729645	NpM D25.1976.18	VI	*
79	flake	Chapel Brampton	SP 729646	PP	VI	*
80	misc, pick ?	Yardley Gobion	SP 738443	PP	XV	
81	flake	Brixworth	SP 739697	PP	VI	*
82	p-h	Badby	SP 559597	PP	quartzite (ns)	
83	adze, pt	Boddington	SP 481537	NpM D148.1978	VI	
84	axe, fr	Towcester	SP 685475	NpM D236.1978	near VIII	
85	flake	Quinton	SP 775536	PP	VI (ns)	
86	mace, fr	Brixworth	SP 741713	NpM D153.1977.1	XX	
87	axe	Desborough	SP 803830	NpM D146.1980	IX	
88	axe	Northampton, Thorplands	SP 789645	NpM P53.1980	coarse tuff	
89	axe, pt	Naseby	SP 694760	PP	XX	
90	flake	Naseby	SP 690790	PP	VI (ns)	
91	flake	Gretton	SP 885928	PP	VI	
92	flake	Brixworth	SP 738704	PP	alltstone	
93	flake	Creaton	SP 728723	PP	VI (na)	
94	flake	Flore	SP 641616	PP	VI (ns)	
95	flake	Flore	SP 636614	PP	VI (ns)	
96	flake	Flore	SP 645615	PP	VII	
97	axe, fr	Flore	SP 648620	PP	VI	
98	axe, pt	East Haddon	SP 680677	PP	VI	
99	flake, perf	East Haddon	SP 662676	PP	altstone	
100	axe	Kettering	SP 890764	Kettering 75.36	quartz gabbro	
101	axe, pt	Northampton, Briar Hill	SP 736592	NpM 7359001	VII	*
102	axe, fr	Northampton, Briar Hill	SP 736592	NpM 7359001	I	*
103	p-h, fr	Northampton, Briar Hill	SP 736592	NpM 7359001	XX	*
104	axe, fr	Northampton, Briar Hill	SP 736592	NpM 7359001	VI	*
105	flake	Northampton, Briar Hill	SP 736592	NpM 7359001	VI	*
106	flake	Northampton, Briar Hill	SP 736592	NpM 7359001	VI	*
107	flake	Northampton, Briar Hill	SP 736592	NpM 7359001	VI	*
108	flakes (10)	Northampton, Briar Hill	SP 736592	NpM 7359001	VI (ns)	*
109	flake	Northampton, Chalk Lane	SP 749605	NpM 7460002	VII	*

Oxfordshire

No.	Ser.	Implement	Locality	N.U.R.	Accession	Petrology	Note
1		axe	Chalgrove	SU 6396	OCM 77,235.1	dolerite	
2		axe	Chalgrove	SU 6396	OCM 77,235.2	VI	
3		axe	Alvescot	SP 2704	PP	VI	*
4		axe	Bampton	SP 323002	PP	VI	*
5		mace	Dorchester, site II	SU 569957	AshM 1947,393	metadolerite	*
6		mace, pt	Dorchester, near site II	SU 569957	AshM 1921,1	diopside schist	
7		axe	Dorchester, site XIV	SU 572952	PP	I	*
8		axe, pt	Spelsbury	SP 341213	AshM 1959,224	I	
9		axe	Minster Love11	SP 3211	AshM 1963,1477	VI	
10		b-a, II	Oxford, R Isis	SP 513055	AshM 1886,1231	XVIII	*
11		axe	Oxford	SP 5105	AshM 1876,37	XVII	*
12		axe	Standlake	SP 3903	AshM 1896,Pr.55	xx	
13		axe	Ewelme Dome	SU 662900	AshM 1918,23	I	*
14		axe	Eynsham	SP 4309	AshM 1896,Pr.56	VIII	*
15		axe, pt	Cassington	SP 450099	AshM 1950,165	near VII	
16		p-h	Woodcote	SU 6482	ReadM 39,55	quartzite (ns)	
17		axe	Church Enstone	SP 3824	OCM 793	VI	*
18		axe	Milton-under-Wychwood	SP 287178	PP	greenstone	
19		f lake	Swalcliffe	SP 386388	AshM 1969,169	VI	*
20		b-a, II, fr	Hanborough	SP 430115	AshM 1969,195	acid tuff	*
21		axe, pt	Hornton	SP 3945	Banbury 512	VI	
22		axe, pt	Cassington	SP 449099	AshM 1950,386	VIII	*
23		axe	Rotherfield Peppard	SP 7181	AshM 1959,424	metatuff	
24		axe, pt	Culham	SU 499954	AshM 1976,185	near VIII	*
25		p-h	Oxford	SP 5106	AshM 1927,3528	quartzite (ns)	
26		mace, pt	Woodeaton	SP 535127	AshM 1956,282	greenstone	*
27		p-h or s-h adze	South Weston	SU 700981	AshM 1965,92	dolerite	*
28		b-a, II	Islip	SP 5214	AshM 1877,274	quartzite	
29		axe	Sonning Common	SU 707802	ReadM 124,70	greenstone	
30		b-a, I	Oxford, Allum's Field	SP 5106	BM Sturge 340	greywacke	
31		polisher	Dorchester, Barcool	SU 5794	BM st, 103	quartzite	*
32		axe	Unlocated	-	BM 75,9239	VI	
33		axe	unlocated	-	BM 1892,11-42	VI	
34		axe	Foxcombe Hill	SP 4901	Pitt Rivers L,I,127	I	
35		axe, pt	Crowmarsh	SU 610866	ReadM 64,50	greenstone	
36		axe, pt	Wendlebury	SP 563196	PP	VII	
37		axe	Broughton	SP 433392	Banbury 962	VI	
38		axe	Bampton	SP 302031	PP	VI	
39		axe	Bampton	SP 302031	PP	VI	
40		axe	Tadmarton	SP 3937	Banbury 510	VI	
41		axe	Black Bourton	SP 2804	Pitt Rivers, Smith	VI	
42		axe, pt	Asthall	SP 286100	85	VI	
43		axe, pt	unlocated	-	Banbury 511	XXIII a	
44		axe	Chalgrove	SU 646971	Pitt Rivers Misc XI, 56	microgranodiorite	
45		p-h	Bampton Castle	SP 3103	ReadM 159,47	quartzite (ns)	*
46		axe	Oxford, Hinksey Stream	SP 495056	Pitt Rivers B,III,91	I	
47		axe	Tackley	SP 475215	Pitt Rivers III,141	I	
48		mace	Witney	SP 3509	Pitt Rivers VI,78	quartz dolerite	
49		flake	Asthall	SP 288100	PP	VI	*
50		axe, fr	Asthall	SP 288100	PP	VIII	*
51		axe, pt	Abingdon	SU 512982	AshM 1928,411c	VI	*
52		axe, fr	Abingdon	SU 512982	AshM 1928,411b	VI	*
53		flake	Abingdon	SU 512982	AshM 1928	VI	*
54		flake	Abingdon	SU 512982	AshM 1928	VI	*
55		flake	Abingdon	SU 512982	AshM 1928	tuff	*
56		axe, fr	Abingdon	SU 512962	AshM 1969,266	VI	*
57		axe ?	Banbury	SP 4540	unknown	VII	*
58		axe	Fyfield	SU 425976	AshM 1958,72	VI	
59		b-a, II	Hinksey	SP 4905	AshM 1964,277	olivine basalt	
60		axe	Abingdon, Sugworth Lane	SU 513008	AshM 1962,99	I	
61		axe	Frilford	SU 428965	AshM 1973,1031	I	
62		p-h	Fencott and Murcott	SP 570166	OCM 76,318.1	quartzite (ns)	
63		axe	Merton	SP 569181	OCM 76,320.1	xx	
64		axe	Upton	SP 242125	OCM 75,132.1	quartz dolerite	
65		axe	Gosford and Water Eaton	SP 516110	OCM 78,12.1 (PP)	VII	
66		p-h	Gosford and Water Eaton	SP 5112	AshM 1878,269	quartzite (ns)	*
67		axe	Kirtlington	SP 509208	OCM 76,433.2 (PP)	I	
68		axe, pt	Eynsham	SP 443094	PP	VI	
69		axe	Pernham	SU 289925	OCM 80,56.1	VI	
70		axe	Pernham	SU 289925	OCM 80,56.2	I	
71		axe, pt	Radley, Thrupp House Fm	SU 524972	PP	XVIII	
72		axe, pt	Ashbury, Wayland's Smithy	SU 281854	ReadM 23,67	greenstone	

Notes

Bedfordshire

NO.	Note
23	Excavated from Rronze Age Ring Ditch 7 (Matthews 1976, 27-36, fig 8, nos 18, 13, and 14 respectively), Bed 23 was incorrectly identified as greywacke,
24	See above
25	See above

Buckinghamshire

No	Note
1	Found during excavation of Cop Barrow (Grimes 1938, 329: Evens and Wallis 1939),
2	Grimes 1946,
6	Rec Bucks 15,4 (1950), 321-2,

No.	Note
7	Although found at High Wycombe, it appears to have been in a load of gravel brought from Folley Bros pit at Marlow (Berks Archaeol J 62 (1966), 72)
18	Smith and Wymer 1964, fig 4 4
21	A small adze with rectangular cross section, possibly a Scandinavian Neolithic Import
22	Rec Bucks 19.3 (1973), 354
23	Found 'in dumped material' on the bank of a stream (Rec Bucks 17 5 (1965), 411)
25	Found during the excavation of Saxon and Medieval Walton (Farley 1976, 161-2, fig 2, 18 and 17 respectively)
26 see above	
27	Roe 1974

Hertfordshire

NO.	Note
1	Found at the bottom of almost three feet of peat (Antiq J 27 (1947), 80-1).
3	Originally published (Evens et al 1962, no 870) as from 'Ashwell (Thistlegrounds Fm)', Thistlegrounds Farm is actually in the neighbouring parish of Eyeworth, and also in the next county - Bedfordshire.
6	Uncertain whether found or purchased at Royston
11	Described as from 'near Hitchin' on the museum label, but the donor has suggested that it may have come from elsewhere in the British Isles,
12	Originally belonged to a person 'in the antique trade' at Hitchin
21	Formerly in the collection of St Edmund's College, Ware
22	This axe, which has a rectangular cross section, is made of a coarse lithic tuff, with crystals of pyroxene and amphibolite. It may be an ethnographic item
25	Found in use as a door wedge at the farmhouse, about 1930
26	Found on the roof of a shed and believed to have been discovered in the coprolite diggings northwest of Ashwell

Northamptonshire

NO	Note
1	Found a mile northwest of Oundle Church : formerly in Bristol City Museum (F 2385,
13	Atkinson's type B1 (Clarke 1970, 570, note 391)
19	An ethnographic item
24	Surface find from an area yielding Neolithic/Bronze Age flint implements
25	Formerly in the University Museum, Nottingham (62 8)
30	Discovered in a Medieval pit (Foster and Harper and 1977, fig 7. 2)
37	The bracer, which would have had two perforations, is unfinished
46	Found in the rubble foundations of an old cottage
55	Adze blade with rectangular cross section": probably a Scandinavian Neolithic import
57	Recovered from the bed of a stream,
60	Surface finds from areas producing Neolithic/Bronze Age flint implements,
61-81 See above	
101	Found during the excavation of the Neolithic causewayed enclosure at Briar Hill (Bamford 1985)
102-8 See above	
109	Found during excavation of Saxon levels below the site of Northampton Castle Fairly extensive prehistoric occupation of the site is indicated by the recovery of over 3,000 worked flints during the excavation (J Williams pers com)

Oxfordshire

No.	Note
3	Leeds 1938 168-9 PI 14 A D
4 See above	
5	Associated with Cremation 21, surrounded by ring ditch (Atkinson et al 1951 fig 31, no 149)
7	Found in the ditch of Site XIV a sub-circular ditch of about 70 feet diameter, with internal bank and enclosing a square setting of four post holes There was no internal dating evidence but the site had been abandoned before the Construction of Site XIII a henge monument known as 'The Big Rings', which yielded Beaker sherds in the lowest ditch silting (Case and Kirk 1954, 216),
10	VCH Oxfordshire I (1939), 241 P12 rm n I. respectively The pattern of discolouration On 11 shows the position of the original hafting
11 See above	
13 See above	
14 See above	
17	Oxoniensia 31 (1966), 153 4, fig 11
19	Found during excavations at Madmarston (amp, beneath an Iron Age rampart (Fouler 1960, 45, fig, 19 7)
20	From Pit 3/14 in an Early Bronze Age cemetery containing cremations in shallow pits, with collared urns and a biconical urn as accessory vessel Charcoal from one the pits gave a radio Carbon date of 1490+, 60 bc (Grn 1686,) (Case et al 1966, fig 26)
22	From a small shallow pit in gravel (kirk and Case 1950)
24	Found with a quantity of Neolithic flintwork, in a ploughed field
27	Found In the upcast from a stream, (Oxoniensia 31 (1966) 155)
28	VCH Oxfordshire I (1939), 244 PI 2p
31	The name Barcool (HM Register, has not been traced it is possibly a mistaken rendering of 'Burcot', a hamlet adjoining Dorchester
45	VCH Oxfordshire I (1939, 244, 1 2q
51	Found during the excavation of the causewayed enclosure at Abingdon, but not individually related to datable contexts (Leeds 1927a, 448 1928 469, PI 72, 1)
52 See above	
53 See above	
54 See above	
55 See above	
56	Found during excavation of the upper fill of the inner ditch of the causewayed enclosure, from which a radio-carbon date of 2510, 140 bc (RM 355) was obtained (Smith 1979, 18)
57	This implement is represented by a thin section, made at Birmingham simply labelled 'VII Banbury' No record of the implement, from which this section was taken, has yet come to light
66	Case 1953 12, fig 4

East Midlands

Abbreviations

BuM	BuxtonMuseum	NotM	Nottingham Castle Museum
DbM	Derby Museum	RCM	Rutland County Museum, Oakham
LeM	Jewry Wall Museum, Leicester	ShM	Sheffield Museums
LincM	Lincoln Museums	SLAU	South Lincolnshire Archaeological Unit
NDAT	North Derbyshire Archaeological Trust	TVARC	Trent Valley Archaeological Research Committee

Derbyshire (additions to Moore & Cumins, 1974)

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe, fr	Youlgreave, Bee Low	SK 191647	N.U.M.	VI fine	*
2		axe	Buxton	SK 052726	BuM	VII	
3		axe	Rowsley	SK 2565	ScM AAF 9	VI medium	
4		axe, fr	Whitwell, Steetley	SK 542792	WpM SF/S	VI coarse	
5		axe, fr	Whitwell, Steetley	SK 542792	WpM	VI fine	
6		axe	Whitwell, Castlehill Fm	SK 505782	WpM	VI medium	
7		b-a	Long Eaton, cemetery	SK 487337	Long Eaton Library	XIV	
8		b-a, fr	Hartington	SK 182597	DbM 673,65	near XVIII	
9		axe	Parwich	SK 1954	DbM	VII	
10		axe	Hulland	SK 248469	DbM 623,3.63	VI medium	
11		axe	Yeaveley	SK 186402	DbM 623,4.63	amphibolite	
12		axe, fr	Hartington, Pikehall	SK 196585	DbM 894,1968	xx	
13		pebble mace	Ballindon, Minninglow Hill	SK 2057	DbM 640,1972	dolerite	
14		axe	Elton, near Berrycliffe	SK 2260	Heathcote 12	xv	
15		axe	Elton (near)	SK 2260	Heathcote 13	VI medium	
16		axe	Stanton Moor (near Cork Stone)	SK 244628	Heathcote 14	andesite	
17		axe	Barn Fm., Birchover	SK 244623	Heathcote 15	VI medium	
18		axe	Aldwark, Curzon Lodge	SK 2356	Heathcote 16	VI medium	
19		axe	Aldwark, Curzon Lodge	SK 2356	Heathcote 19	VI medium	
20		axe	Aldwark, Curzon Lodge	SK 2356	Heathcote 20	xv	
21		axe	Aldwark, Curzon Lodge	SK 2356	Heathcote 21	VI medium	
22		axe	Aldwark, Curzon Lodge	SK 2356	Heathcote 22	dolerite	
23		axe	Aldwark, Curzon Lodge	SK 2350	Heathcote 23	VII	
24		axe	Elton Moor	SK 2059	Heathcote 9	VII	
25		axe	Winsten, nr. Winsten Hall	SK 2360	Heathcote 10	VI banded	
26		b-a	Aldwark, Curzon Lodge	SK 2356	Heathcote	near XVIII	
27		mace, pestle	Aldwark, Curzon Lodge	SK 2356	Heathcote	I	
28		mace, ovoid	Aldwark, Curzon Lodge	SK 2366	Heathcote	dolerite	
29		a-h	Great Longstone	SK 1971	Heathcote	dolerite	
30		axe	Youlgreave	SK 2164	Heathcote	I	
31		b-a	Stanton Moor	SK 2463	Heathcote	dolerite	
32		axe	Doveholes, Chapel en le Frith	SK 0777	MM 02810	greywacke	*
33		axe	Bamford	SK 2083	MM 02778	XX	
34		axe, fr	Aldwark, Greenlow chambered tomb	SK 232580	DbM	VI banded	*
35		axe	Newhaven	SK 1659	PP	tuff	
36		axe	Hartington M.Q., High Wheeldon, Foxhole Cave	SK 099664	PP	VI medium	
37		axe	Hope	SK 1783	Bolton M 177 (17)	XVIII	
38		axe, unfin	Stanton Moor	SK 2463	unknown	VI banded	
39		axe	Castleton, Treak Cliff Cave	SK 136831	ShM J 1959 6/c/16	VI banded	
40		s-h adze	Middleton & S., Arbor Low	SK 161636	ShM J 1959 6/C/23	XVIII	
41		axe	Middleton & S., Arbor Low	SK 161636	ShM J 1959 6/C/20	dolerite	
42		axe	Alvaston	SK 3933	DbM 819,4.21	epidiorite	
43		axe	Ashover	SK 3463	DbM 316,1.31	xx	
44		axe	Ashover	SK 3463	DbM 316,2.31	VII	
45		axe	Belper, Blackbrook	SK 341485	DbM 76,46	I	
46		axe	Chesterfield, Somersall Hall Fm.	SK 383700	DbM 897,1.40	VI medium	
47		axe	Cubley, Lodge Fm.	SK 158364	DbM 140,1951	VII	
48		axe	Derby, 22 Rowsley Ave.	SK 339339	DbM 337,57	VI medium	
49		axe	Duffield, Eaton Bank	SK 3542	DbM 417,33	dolerite	
50		axe	Etwall	SK 272328	DbM 746,37	tuff	
51		axe	Heanor, Laceyfields Rd.	SK 454463	DbM 321,56	XX	
52		axe	Tideswell	SK 1575	DbM 897,2.40	VI medium	
53		mace, ovoid	Beeley Moor	SK 2967	DbM 897,4.40	XX	
54		mace, ovoid	Breadsall	SK 3739	DbM 819,5.21	quartzite	
55		a-h	Sinfin, Derby	SK 3431	DbM 346,31	XVIII	
56		disc, perf	Derbyshire (unloc.)	--	DbM 819,3.21	tuff	
57		axe	Sawley, bed of Trent	SK 4731	DbM 866,22	epidiorite	
58		axe	South Normanton	SK 4456	DbM 411,33	VI banded	
59		axe	Derbyshire (unloc.)		DbM	granophyre	*
60		a-h	Derby, Allenton	SK 3731	DbM 285,55	xv	
61		a-h	Darley Dale	SK 2762	DbM 819,6.21	xv	
62		pebble mace	Chellaston	SK 3830	DbM 264,55	quartzite	
63		axe	Derbyshire (unloc.)	--	DbM	xx	
64		axe, fr	Walton Dam	SK 3670	DbM 897,3.40	basalt	
65		axe	Bakewell Moor	SK 2168	ShM J.93.61	tuff	
66		axe	Gratton Moor	SK 1960	ShM J.93.69	VI banded	
67		axe	Harthill Moor	SK 2262	ShM J.93.27	VI banded	
68		axe	Hartington TQ, Brunccliffe	SK 182616	ShM J.93.29	tuff	
69		axe	Hartington NQ, Newhaven	SK 1659	ShM J.93.32	I	
70		axe	Hartington NQ, Fairground	SK 1660	ShM J.93.43	epidiorite	
71		axe	Hartington NQ, Fairground	SK 1660	ShM J.93.45	epidiorite	
72		axe	Hartington RQ, near Biggin	SK 1559	ShM J.93.59	tuff	
73		axe	Hartington NQ, Newhaven	SK 1660	ShM J.93.74	VI banded	
74		axe	Hartington NQ, Newhaven Bank Fm.	SK 166588	ShM J.93.58	XV	
75		axe	Hartington NQ, Fairground	SK 1660	ShM J.93.75	VI banded	
76		axe	Hartington NQ, Newhaven Fm	SK 172600	ShM J.93.57	VI banded	
77		axe	Hartington TQ, Newhaven Lodge	SK 152626	ShM J.93.79	VII	

No.	Ser.	Implement	Locality	N.G.R	Accession	Petrology	Note
78		axe	Hartington TQ, Newhaven Lodge Fm.	SK 152626	ShM J.93.72	VII	
79		axe	Hartington TQ, Newhaven Lodge Fm.	SK 152626	ShM J.93.67	XX	
80		axe	Hartington NQ, 'ELK' (Aleck) Low	SK 175595	ShM J.93.64	tuff	
81		axe	Hartington TQ, Newhaven Lodge	SK 152626	ShM J.93.34	granophyre	
82		axe	Hartington TQ, Brunchcliffe Fm.	SK 162616	ShM J.93.48	I banded	
83		axe	Hartington TQ, Wilton's Lodge Fm.	SK 152626	ShM J.93.31		
84		axe	Sterndale by Buxton	SK 0972	ShM J.93.26	VI banded	
85		axe	near Monyash	SK 1566	ShM J.93.37	coarse lithic sandstone	
86		axe	Longstone Edge	SK 2073	ShM J.93.33	VI fine	
87		axe	Middleton & S. near Arbor Low	SK 1663	ShM J.93.70	VII	
88		axe	Middleton & S. near Buddles	SK 1863	ShM J.93.40	XX	
89		axe, pt	Middleton & S. near Buddies	SK 1863	ShM J.93.71	chert	
90		axe	Middleton & S. Cross Platts Pl.-ntation	SK 193638	ShM J.93.36	XX	*
91		axe	Middleton & S. Greenseats	SK 1763	ShM J.93.77	VI medium	
92		axe	Middleton & S. Smerrill	SK 1961	ShM J.93.63	tuff	
93		axe	Middleton & S. Smerrill Moor	SK 1860	ShM J.93.30	andesite	
94		knife ?	Middleton & S. Middleton Moor	SK 1763	ShM J.93.89	slate	
95		axe	Middleton & S. Middleton Moor	SK 1763	ShM J.93.65	VII	
96		axe	near Monyash	SK 1568	ShM J.93.47	VI banded	
97		axe	Monyash, Oneash Farm	SK 169652	ShM J.93.68	XX	
98		axe	Nether Haddon. near Haddon Hall	SK 2366	ShM J.93.28	dolerite	
99		axe	Farwich. Gotham	SK 1858	ShM J.93.73	VI fine	
100		axe	Sheldon, High Low	SK 1568	ShM J.93.80	VI medium	
101		axe	Walton, Holymoorside	SK 3369	ShM J.1940.85	dolerite	
102		axe	Youlgreave. Holmes, by river	SK 2163	ShM J.93.78	VI medium	
103		axe	Youlgreave Moor	SK 2064	ShM J.93.82	VI medium	
104		axe	Youlgreave	SK 2164	ShM J.93.46	dolerite	
105		a-h	Sudbury. Hungry Bentley	SK 1738	ShM J.93.1	dolerite	
106		a-h	Stanton Moor	SK 2463	ShM J.93.2	XV	
107		a-h	Stanton Moor	SK 2463	ShM J.93.4	XII	
108		a-h	Harthill Moor	SK 2262	ShM J.93.5	XV	
109		a-h	Birchover Moor	SK 2461	ShM J.93.6	greywacke	
110		a-h	Taddington	SK 1471	ShM J.93.7	XV	
111		axe	Hathersage. near Scraper Low	SK 243814	ShM	XX	
112		axe, fr	Hathersage. near Scraper Low	SK 243814	ShM	VI medium	
113		axe	Ashford in the Water. Shacklow	SK 1769	ShM	xx	
114		mace, fr	Ashford in the Water. Shacklow	SK 1769	ShM	coarse basic tuff sandstone	
115		a-h, fr	Ashford in the Water. Shacklow	SK 1769	ShM	VII	
116		axe, fr	Ashford in the Water. Shacklow	SK 1769	ShM	calcareous mudstone	
117		scraper	Ashford in the Water. Shacklow	SK 1769	ShM	tuff	
118		axe, fr	Ashford in the Water. Shacklow	SK 1769	ShM	VI medium	
119		axe, fr	Ashford In the Water. Shacklow	SK 1769	ShM	XVIII	
120		a-h	Long Eaton, 233 Breedon Street	SK 480348	BuM		*
121		axe, fr	Middleton by Youlgreave	SK 1983	ShM x 1970.750	VII	
122		mace	Harthill Moor	SK 224627	ShM J.1957.76	greywacke	
123		b-a	Borrowash	SK 4134	ShM J.93.8	dolerite	
124		b-a	near Tideswell	SK 1575	ShM J.93.13	XII	
125		b-a	Carder Low	SK 130626	ShM J.93.11	XII	
126		b-a	Hartington MQ, Parcelly Hay	SK 144641	ShM J.93.12	XII	
127		axe ?	Monyash, Oneash Fm.	SK 169652	ShM J.93.81	epidiorite	
128		axe	near Sterndale by Buxton	SK 0972	ShM J.93.38	VII	
129		mace	Ockbrook	SK 4235	ShM J.93.17	sandstone	
130		s-h adze	Middleton by Youlgreave	SK 1862	ShM J.93.16	greywacke	
131		pebble mace, fr	Baslow. near Clod Hall	SK 289723	ShM J.1954.98	basalt lava	
132		axe, fr	Castleton	SK 149826	ShM J.1954.81	VI coarse	
133		pestle or rubber	Eyam Moor	SK 2278	ShM X.1972.749	greywacke	
134		axe, reisted	Middleton & S, Greenseats	SK 1763	ShM J.93.42	quartzite	
135		axe	Beighton	SK 449842	ShM J.1916.124	XV	
136		axe	Baslow. Big Moor. beneath barrow (1958)	SK 277757	ShM X.1969.247	VI medium	*
137		axe	Middleton & S. near Arbor Low	SK 1663	BuM 1034	VI banded	
138		axe	Monyash. nr. Ricklow qy	SK 1566	BuM 1035	VIII	
139		axe	Deepdale. Kingsterndale ?	SK 0971	BuM 1036	IX	
140		axe	Overhaddon	SK 2066	BuM 1037	VI banded	
141		axe	Hartington Moor	SK 1461	BuM 1038	XVIII	
142		axe	Hartington Moor	SK 1461	BuM 1039	VII	
143		axe	Hartington UQ, Hindlow qy	SK 0869	BuM L9/1	VII	
144		axe	Kingsterndale, Cowdale qy	SK 0872	BuM L9/2	VI medium	
145		axe	Wormhill. Tunstead qy	SK 1074	BuM L9/3	tuff	
146		axe	Wormhill. Tunstead qy	SK 1074	BuM L9/4	VI medium	
147		axe	Hartington UQ, Hindlow qy	SK 0869	BuM L9/5	VI medium	
148		axe	Hartington UQ, Hindlow qy	SK 0869	BuM L9/8	I	
149		axe	Hartington UQ, Hindlow qy	SK 0869	BuM L9/9	I	
150		axe	Hartington UQ, Hindlow qy	SK 0869	BuM L9/22	VI fine	
151		axe	Hartington UQ, Hindlow qy	SK 0869	BuM L9/26	VI medium	
152		axe ?	Hartington UQ, Brierlow Grange	SK 096691	BuM 175	XX	
153		axe	Burbage. Harpurhill	SK 0671	BuM 982	VI medium	
154		axe	Burbage. Harpurhill	SK 0671	BuM 983	XX	
155		axe	Hartington UQ, Hindlow qy	SK 0869	BuM L9/36	VI fine	
156		axe	Burbage. Harpurhill	SK 0671	BuM L9/37	VI medium	
157		axe	Hartington UQ, Hindlow qy	SK 0069	BuM L9/38	VI banded	
158		axe	Hartington UQ, Hindlow qy	SK 0869	BuM L9/39	VI medium	
159		axe ?	Peak Forest. Bee Low	SK 0979	BuM L9/40	VII	
160		axe	Hartington UQ, Brierlow	SK 0868	BuM LW/21	sandstone	
161		axe	Hartington UQ, Dow Low	SK 1087	BuM 1161	XX	
162		axe	Peak Forest. Bee Low	SK 0979	BuM 1162	epidiorite	
163		axe	Hartington UQ, Brierlow	SK 0888	BuM 1112	near XV	
164		axe	Burbage. Harpurhill	SK 0671	BuM 1114	VII	
165		axe	Elton (?). Bonsall Moor	SK 2559	BuM 1122	XX	
166		axe	Burbage, Harpurhill	SK 0671	BuM 1113	VI banded	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
167		axe	Hartington UQ. Staker Hill	SK 0669	BuM 1115	VI banded	
168		axe	Hartington UQ. Staker Hill	SK 0669	BuM 1123	granophyre	
169		axe	Bradwell. nr Grey Ditch	SK 183805	BuM	VI coarse	
170		axe. fr	Blackwell. Calton Hill Quarry	SK 118714	BuM	VI medium	
171		axe	Derby, 130 Radbourne St.	SK 334366	DbM L.178.64	VI medium	
172		axe ?	Burbage. Harpurhill	SK 0671	BuM 984	diorite	
173		hammerstone ?, pt	Froggatt. Froggatt Edge	SK 249768	ShM J.1947.358	basalt	
174		perf					
175		pestle or rubber	Middleton & S, Kenslow	SK 184617	ShM J.93.122	tuff	
176		axe	Eyam	SK 2176	PP	VII	
177		axe. fr	Eyam	SK 2176	PP	VII	
178		axe	Middleton	SK 1963	ShM J.93.21	VI medium	
179		axe	Bradwell	SK 1781	PP	epidiorite	
		a-h	Drakelowe Royale Fm	SK 254191	Burton on Trent 1953	dolerite	
180		axe	Bradwell	SK 177819	D.V.W.B.	VI fine	
181		axe ?			BuM 12	diorite	
182		axe	Castleton. Peveril Castle	SK 149826	ShM J.1954.81	VI medium	
183		axe	Bradwell	SK 174814	ShM X.1964.1408	VII	
184		axe	Bradwell	SK 174814	ShM X.1964.1409	VII	
185		axe	Middleton & S, near Arbor Low	SK 1663	ShM J.93.35	tuff	
186		axe	Beighton	SK 4483	PP	VI coarse	
187		a-h	Whitwell, Burnt Leys	SK 544776	NUN	XVIII	*
188		axe. fr	Elton, Astonhill	SK 203586	Mr E. Cliffe H/L	VII	*
189		axe. fr	Elton, Astonhill	SK 203586	Mr E. Cliffe H/L	VI banded	*
190		axe. fr	Elton Grattoon Farm	SK 198605	Mr E. Cliffe G/70/6	VI medium	
191		axe. fr	Elton Grattoon Farm	SK 198605	Mr E. Cliffe G/21	VI medium	
192		pebble mace. fr	Elton Grattoon Farm	SK 198605	Mr E. Cliffe G/21	XX	*
193		flake	Elton Grattoon Farm	SK 198605	Mr E. Cliffe	dacite (lava)	
194		flake	Elton Grattoon Farm	SK 198605	Mr E. Cliffe G/70/6	VI coarse	
195		flake	Elton Grattoon Farm	SK 198605	Mr E. Cliffe G/70/9	VI fine	
196		flake	Elton Grattoon Farm	SK 198605	Mr E. Cliffe	VI banded	
197		axe. fr	Elton Grattoon Farm	SK 198605	Mr E. Cliffe G/21	tuff	
198		axe. fr	Elton Grattoon Farm	SK 198605	Mr E. Cliffe	VI banded	
199		axe. fr	Elton Grattoon Farm	SK 198605	Mr E. Cliffe G/21	VI coarse	
200		axe	Ilkeston	SK 4541	Ilkeston Library	VI medium	
201a		misc artefact	Melbourne	SK 388254	PP	quartzite	*
201b		misc artefact	Melbourne	SK 388254	PP	quartzite	*
201c		misc artefact	Melbourne	SK 388254	PP	quartzite	*
202		axe	Deans Land, Newhaven	SK 1659	ShM J.99.44	I	
203		axe	Winsten	SK 2360	unknown	VII	*
204		a-h	Clay Cross	SK 398662	PP	XIV	
205		b-a	Bolsover	SK 471703	PP	dolerite	
206		b-a	Belper. Charnwood Avenue	SK 348478	DbM L.166.1958	xv	
207		axe	Taddington	SK 1471	PP	dolerite	
208		axe	Buxton. Booth High Edge	SK 0668	BuM 1108	xx	
209		mace	nr Belper 1884	SK 34	AshM 1927.3464	micaceous sandstone	*
210		misc artefact	Doverbridge. Sauts Farm, Woodho-	SK 1235	Richards Coll 617	tuff	
			use				
211		axe	Middleton Moor	SK 2074	BM Lucas 447	VII	
212		axe	Wormhill	SK 1274	BM Lucas 439	VI	
213		axe	Newhaven	SK 1659	BM Lucas 449	XX	
214		axe	Middleton Moor 1871	SK 2074	BM Lucas 431	altered basalt	
215		axe	Middleton Moor 1864	SK 2074	BM Lucas 337	VI	
216		axe	Arbor Low 1867	SK 160636	BM Lucas 435	greenstone	
217		axe	nr Minninglow 1872	SK 2057	BM Lucas 448	VIII	
218		axe	Ringham Low 1862	SK 179619	BM Lucas 221	tuff	
219		axe	Dovedale	SK 15	BM Lucas 421	near XVIII	
220		axe	Middleton Moor 1868	SK 2074	BM Lucas 454	greenstone	
221		axe	Middleton Moor	SK 2074	BM Lucas 253	VI	
222		axe	Buxton 1898	SK 07	BM 98-6	tuff	
223		axe	Middleton Moor 1873	SK 2074	BM Lucas -	gabbro	
224		axe	Middleton Moor	SK 2074	BM Lucas 436	VI	
225		axe. pt	Eyam. nr Druids Circle	SK 2278	Doncaster 164.80	greenstone	
226		s-h adze	Edensor	SK 253699	ShM 1974.645	XV	*
227		a-h, IIB	Littleover. 17 Scarsdale Ave	SK 330346	Leeds D.1974.1	XIV	
228		axe. pt	Derby, racecourse excav	SK 361376	DbM 108.1974	VI	*
229		axe. pt	Elton	SK 218600	DbM Cooper 64	VII	*
230		axe. fr	Elton	SK 218600	DbM Cooper 100	tuff	*
231		axe. fr	Elton	SK 218600	DbM Cooper 100	VI	*
232		axe. fr	Elton	SK 218600	DbM Cooper M541.59	VI	*
233		axe. fr	Elton	SK 218600	DbM Cooper 64	VI	*
234		axe. fr	Elton	SK 218600	DbM Cooper M1342.100	VII	*
235		axe, flake	Elton	SK 218600	DbM Cooper M1191.69	VI	*
236		axe, flake	Elton	SK 218600	UbM Cooper M1190.50	VII	*
237		axe, flake	Elton	SK 218600	DbM Cooper 74	VI	*
238		axe. fr	Elton	SK 218600	DbM Cooper 64	banded acid tuff	*
239		axe. fr	Elton	SK 218600	DbM Cooper M457.100	VI	*
240		a-h, IIB	Stanton Moor	SK 2463	BM 55.5-7.1	xv	
241		a-h, I	nr Winsten	SK 2360	BM Lucas -	xv	
242		b-a	Stanton Moor	SK 2463	BM Christy+4599	dolerite	
243		axe	nr Monyash 1866	SK 16	BM Lucas 455	greywacke	
244		axe	nr Arbor Low 1866	SK 160636	BM Lucas 451	VI	
245		axe, pt	Grattoon	SK 1960	DbM 529.76	coarse tuff	
246		axe	nr Burbage	SK 0472	DbM L.244.75	actinolite chlorite fels	
247		axe, fr	Creswell Craggs. N end	SK 536745	Creswell Craggs Visit-	VI	*
					or Centre 76/42		
248		axe. pt	Creswell.Markland Grips	SK 509748	Creswell Craggs Visit-	VI	
					or Centre 47		
249		b-a	Derbyshire. stone circle		Alexander Keiller Co-	altered dolerite	
250		axe	Walton-on-Trent	SK 2118	PP	calitised acid tuff	*
251		axe	Hartington	SK 1260	PP	VI	
252		a-h	Brailsford. Ednaston Hall Fm	SK 2341	PP	Porphyry	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
253		axe	Taddington	SK 1471	ShM Z86	VI	*
254		axe, fr	Wigber Low excavations	SK 204514	ShM 1981.1(4579)	VII	*
255		axe, fr	Wigber Low excavations	SK 204514	ShM 1981.1(5881 &c)	XX	*
256		axe, fr	Wigber Low excavations	SK 204514	ShM 1981.1(4931 &c)	acid tuff	*
257		axe, fr	Wigber Low excavations	SK 204514	ShM 1981.1(1387 &c)	VI (ns)	*
258		axe	Hartington NQ. Upper House Fm	SK 182593	NDbs Arch Trust	epidotised tuff	*
259		axe	Aldwark	SK 207579	NDbs Arch Trust	altered porphyritic andesite	*
260		axe	Newhaven. nr Aleck Low	SK 177591	NDbs Arch Trust	VII	*
261		axe	Wardlow	SK 1874	ShM X 1969.251	metatuff	
262		axe	Derwent. Devils Dyke	SK 092936	ShM x 1975.541	altered dolerite	*
263		a-h, Ia	Ashopton	SK 1986	ShM J 1935.51	XVIII	
264		axe, rewd	Melbourne, Castle Hill	SK 389252	TVARC	VI (ns)	
265		axe	Wardlow, Ravenadale	SK 173740	pp	VII	
266		axe	Monyash	SK 1466	Buxton 492	XX	
267		axe	Wormhill, Tunstead Quarry	SK 1074	Buxton 493	VI	
268		axe	Arbor Low	SK 160636	Buxton 495	XX	
269		axe	King Sterndale	SK 0972	Buxton 559	fine tuff	
270		axe	Buxton. Silverlands Sch	SK 062735	Buxton 560	tuff	
271		axe	Rowarth, New Wills	SK 0189	Buxton 3334	hornblende schist	
272		mace, Thames pestle, Pt	Arbor Low	SK 160636	Buxton 1041	quartzite	
273		mace. ovoid, pt	Wormhill, Tunstead qu	SK 1074	Buxton 1044	altered tuff	
274		disc. perf	Buxton, Little Gib Yard	SK 064727	Buxton 1073	greywacke	
275		p-h	Whaley Bridge	SK 0181	Buxton 1075	greywacke	
276		p-h	Monyash	SK 1466	Buxton 1077	XVIII	
277		cupped pebble, pt	Arbor Low	SK 160636	Buxton 3228	biotite hornfels	*
278		b-a	Buxton, Thirkel Low	SK 049692	Buxton 1048	XII	
279		axe	Brassington area	SK 2354	DbM		
280		axe	Brassington area	SK 2354	DbM	VI	
281		flake	Gratton. Mt Pleasant Fm	SK 187611	pp	VI (ns)	*
282		axe	Chelmorton, Brierlow 1873	SK 088687	BM Lucas	pyroxene (near jadeite)	*
283		waste flake	Wigber Low excavations	SK 204514	ShM 1981.1(5104)	acid tuff	*

Leicestershire (additions to Moore & Cummins, 1974)

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1	237	axe, fr	Leicester, Gypsy Lane	SK 604067	LeM 4.1951	VI	
2	238	axe, fr	Leicestershire	-	LeM 3.1951	VI	
3	239	axe, fr	Breedon on the Hill	SK 406233	LeM 5.1951	greenstone	
4		axe	Frolesworth	BP 514910	LeM 20IL.1964.190	epidiorite	
5		axe	Eaton, Lings Covert	SK 803273	LeM 608.1964	VI banded	
6		b-a	Stonton Wyville	SP 7395	LeM 78.1955	quartzite (ha)	
7		axe	Leicester. High St.	SK 585045	LeM 116.1962	IX	
8		axe	Stathern ?	SK 7731	LeM 466.1971	VI banded	
9		axe	Staunton Harold. Ropers Hill	SK 391202	LeM 468.1971	VI fine	
10		axe	Breedon on the Hill, Sch	SK 408231	LeM 54.1963	VI medium	
11		axe	Glenfield, Tournament Rd	SK 546055	LeM 77.1931	VII	
12		a-h	Barrow on Soar, Netherfield	SK 589163	LeM 41.1870	XIV	
13		axe	Leicester. Butt Close Lane	SK 585049	LeM 2.1951	VII	
14		axe	Baton, Goadby Marwood	SK 779266	LeM 13.1954	XX	
15		axe	Stoke Golding	SP 3997	LeM 113.1933	VI banded	
16		a-h	Leicester, Welford Rd Cemey	SK 591031	LeM 57.1858	XVIII	
17		axe	Castle Donnington. Park Fm	SK 422267	LeM 21L. 1960	VI coarse	
18		b-a. pt perf	Ulveracroft Priory	SK 501127	LeM 44.1930	granophyre (Markfieldite)	
19		b-a	Shackerstone, Odstone Hall	SK 390076	LeM 62.1949	coarse tuff	
20		axe	Belton, Spring Barrow Lodge	SK 449179	LeM 7.1947.1	tuff	*
21		axe	Belton. Spring Barrow Lodge	SK 449179	LeM 7.1947.2	XX	*
22		axe	Ratcliffe on the Wreak	SK 627146	LeM 11.1860	XVIII	
23		axe	Charley. Gracedieu	SK 447175	LeM 196.1960	XX	
24		miner's tool ?	Leicester. Gt Central Stn	SK 581047	LeM 214.1956	amphibolite	*
25		axe	Leicester. Abbey Meadows	SK 588061	LeM 16.1922	VI coarse	
26		axe	Leicester, Gypsy Lane	SK 604067	LeM 7.1951	VI banded	
27		mace	Thurmaston, nr Humberstone Lane	SK 617084	LeM 580.1954	metagreywacke	
28		axe	Leicester, Somerset Ave.	SK 578064	LeM 6.1951	VI fine	
29		axe	Leicester. Belgrave gravel pit	SK 5906	LeM 9.1875	microdiorite	
30		a-h	Button Cheney. Ambion Hill	SP 398999	LeM 455.1965	XIV	
31		mace	Bottesford	SK 9039	LeM OS.684.1951	rhyolitic tuff	
32		axe, pt	Loughborough. Park Lana Brick yd	SK 533181	LeM 3653.1888	VI coarse	
33		axe	Leicester. New Parka, 73 Glazebrook Rd	SK 560058	LeM 9.1951	XVI	
34		hammer, perf	Oadby, Vicarage Garden	SK 625004	LeM 953.1951	quartzite	
35		axe	Loughborough area	-	LeM 600.1951	amphibolite	
36		axe	nr Market Harborough	-	LeM 10.1951	dolerite	
37		axe	Great Easton, Brook Lane	SP 847928	MHM 190	VI coarse	
38		axe	Kilby. Foston	SP 6094	PP	VI banded	
39		axe	Market Harborough allotments	SP 744675	MHM 567	amphibolite	
40		axe	Smeston Westerby, Wrenbury Fm	SP 684924	LeM 14.1969	XVI	
41		a-h	Leicestershire	-	LeM 27.1936	olivine dolerite	
42		a-h adxe	Scraptoft, Church Rd Hill	SK 646058	LeM 471.1952	epidiorite	
43		axe	Leicester, Abbey Pump St	SK 589067	BM 1925.10-13.1	sandstone	
44		axe	Sproxtton, Park Gate qy	SK 865247	LeM c/69/45	VI	
45		a-h	Glen Parva, The Bridle	SP 567996	LeM 246.1957	quartzite	
46		axe	Leicester, Weetern Road	SK 578035	LeM 59.1930	VI	
47		axe	Sharnford. Home Barn Fm	SK 490912	pp	I	
48		b-a	Knipton res, Croxton Kerrial	SP 182300	Grantham DN 34.37	XVIII	
49		p-h	Earl Shilton. 105-7. Wood St	SP 461976	LeM 96.1972	ophitic gabbro	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
50		p-h	Dunton Bassett, Church Cl	SP 547904	LeM 468.1974	iron-stained silty chert	
51		axe	Wymondham. Banks	SK 861186	pp	acid tuff	
52		a-h, fr	Barkby Thorpe. Hamilton	SK 652077	LeM 422.1976	XIV	*
53		axe	Breedon-on-the-Hill	SK 405233	pp	VI	
54		axe, fr	Garthorpe	SK 835202	LeM 403.1976	VI	
55		axe	Wigston Magna. Glebe Fm	SP 619964	pp	lithic greywacke	

Lincolnshire (additions to Cummins & Moore, 1973) (H) after the place-name indicates that the parish is now in the county of Humberside

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1	595	axe	Denton	SK 8632	pp	VI	
2		axe	Legbourne	TF 3684	Lincoln 1005.06	I	
3		axe	Haxey	SK 7699	Lincoln 393.08	I	
4		axe	Canwick	SK 985695	Lincoln 8.52	I	
5		axe	North Killingholme	TA 146175	Lincoln 5.52	VI fine	
6		axe	Hackthorn	SK 977804	Lincoln 28.52	VI banded	*
7		axe	Cammeringham	SK 945823	Lincoln 30.53	VI banded	
8		axe	Hatton	TF 186765	Lincoln 95.35	VI medium	
9		axe	North Kelsey	TA 032012	Lincoln 9.52	VI medium	
10		axe	North Willingham	TF 163884	Lincoln 352.37	VI medium	
11		axe	Langton-by-Wragby	TF 1555	Lincoln 52.30	VI medium	
12		axe	Nocton	TF 0664	Lincoln 62.37	VI coarse	
13		axe	Thorpe St Peter	TF 4060	Lincoln 322.15	VI fine	
14		axe	nr Brigg	TA 0007	Lincoln 7.25	VI fine	
15		axe	South Kyme	TF 1749	Lincoln 63.37	VI medium	
16		axe	Spridlington	TF 0084	Lincoln 15.50	VI medium	
17		axe	Woodhall Spa	TF 1963	Lincoln 64.37	VI medium	
18		axe	Thornton-le-Moor	TF 2568	Lincoln 3.24	VII	
19		axe	Ewerby and Evedon (Waithe Commo- n)	TF 146498	Lincoln 3.48	VI fine	*
20		axe	Ewerby and Evedon (Waithe Commo- n)	TF 146498	Lincoln 4.48	VI medium	*
21		axe	Kirkstead (R. Witham)	TF 209547	Lincoln 61.37	VI fine	
22		axe	North Hykeham	SK 947659	Lincoln 8.21	VI medium	
23		axe	Saxby All Saints	SE 9916	Lincoln 301.16	VI medium	
24		axe	Burwell	TF 358796	Lincoln 1004.06	VI medium	
25		axe	Haxey	SK 7699	Lincoln 94.11	VI medium	
26		axe	Kirton in Lindsey	SK 9398	Lincoln 602.15	VI fine	
27		axe	Haxey	SK 7699	Lincoln 394.08	VI medium	
28		axe	Broxholme	SK 911788	Lincoln 19.34	VI coarse	
29		axe	Hatton (Beckfield)	TF 189769	Lincoln 93.35	VI banded	
30		axe	Hackthorne	SK 977804	Lincoln 29.52	VI banded	*
31		axe	East Firsby	TF 0085	Lincoln 16.50	VI medium	
32		axe	Saxilby	SK 897743	Lincoln 5.44	VI banded	
33		axe	Humberston	TA 325057	Lincoln 80.54	VI banded	
34		axe	Tetford	TF 3070		VI banded	*
35		axe	Sutterby	TF 390725	Lincoln 94.70	VI banded	
36		axe	Authorpe	TF 405820	Lincoln 77.54	VI fine	
37		axe, fr	West Keal (Hall Hill)	TF 360640	pp	VI medium	
38		axe	Bishop Norton	TF 020924	Lincoln 6.56	VI banded	*
39		axe	Cleethorpes	TA 300067	Lincoln 81.54	VI medium	
40		axe	West Ravendale	TF 230985	Lincoln 78.54	VI medium	
41		axe	Bishop Norton	TF 019925	Lincoln 7.56	VI banded	
42		axe	Bishop Norton	TF 020924	Lincoln 5.56	VI fine	*
43		axe	Rowston	TF 109557	Lincoln 6.55	VI fine	
44		axe	Worlaby	TF 3476	Lincoln 79.54	VI medium	
45		axe	Heighington	TF 047704	Lincoln 37.54	VII	*
46		axe	Winteringham	SE 926223	Lincoln 6.25	VII	
47		axe	Haxey	SK 7699	Lincoln 340.08	VII	
48		axe	Hackthorn	SK 977804	Lincoln 27.52	VII	*
49		axe	Heighington	TF 047704	Lincoln 22.39	VII	*
50		axe	Reepharn	TF 036737	Lincoln 12.32	VII	
51		axe	Hablethorpe	TF 5085	Lincoln 1009.06	IX	
52		axe	Buslingthorpe	TF 093855	Lincoln 118.56	IX	
53		axe	Haxey	SK 7699	Lincoln 76.54	IX	
54		axe	Heighington	TF 030695	Lincoln 47.47	XVI	
55		axe	Scunthorpe	SE 8911	Lincoln 10667.06	XVII	
56		axe	Scunthorpe	SE 8911	Lincoln 498.11	XVIII	
57		axe	Legsby	TF 123838	Lincoln 110.53	VI medium	
58		axe	Kirton in Lindsey	SK 98398	Lincoln 162.30	tuff	
59	axe, fr		Roxby cum Risby (Risby Warren)	SE 926136	Lincoln 165.24	acid tuff	
60	axe, fr		Winterton (Cliff Farm)	SE 9118	Lincoln 10.30	VI coarse	
61		axe	Horncastle District	TF 2669	Lincoln 53.55	tuff	
62		axe	Walcot (Digby Fen)	TF 111554	Lincoln 65.56	tuff	
63		axe	Skegness	TF 561633	Lincoln 118.70	schist	
64		axe	Skellingthorpe	SK 920720	Lincoln 358.27B	tuff	*
65		axe	Broughton. Gokerell	SE 9410	Lincoln 5.25	chert	
66		axe	Gainsborough	SK 8189	Lincoln 294.14	chert	
67		axe	Lincoln ('Farm Near')	-	Lincoln 666.09	amphibolite	
68		axe	North Killingholme	TA 146175	Lincoln 4.52	granodiorite	
69		axe	Waithe (Gravel Pit)	TA 2000	Lincoln 3.40	tuff	
70		axe	Bishop Norton (Carrs)	TF 016934	Lincoln 36.47	chert	
71		axe or amulet	Messingham or Kirton Lindsey	-	Lincoln 603.15	acid tuff	
72		axe, fr	Fillingham	SK 9485	Lincoln 20.20	chert	
73		pestle	Wroot	SE 7000	Lincoln 806.13	sandstone	
74		axe	South Kelsey	TF 087994	Lincoln 117.56	trachyte lava	
75		axe	North Kelsey	TA 024000	Lincoln 9.21	near XVIII	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
76		axe	Minting (Millfield)	TF 177755	Lincoln 94.35	spotted slate	
77		axe	saxby (Cliff)	SK 987863	Lincoln 37.57-1	VI banded	*
78		axe	Saxby (Cliff)	SK 987863	Lincoln 37.57:2	XX	*
79		axe	Horncastle	TF 261697	Lincoln 54.57	XX	
80		axe	Fiskerton	TF 065738	Lincoln 105.70	VI banded	
81		axe	Strubby	TF 466838	Lincoln 104.70	VI medium	
82		axe	Riby	TA 170080	Lincoln 112.70	VI coarse	
83		axe	Grainaby	TF 310996	Lincoln 121.70	tremolite fels	
84		axe	Thimbleby	TF 222695	pp	VI fine	
85		axe	Sounthorpe	SE 8911	Lincoln 699	VI medium	
86		axe	Owmbly by Spital, Cliff Fm	SK 969867	Lincoln	chert	
87		axe	Boston	TF 330470	Lincoln 73.73	VII	
88		axe	Burton	SK 937742	Lincoln 13.59	VI medium	
89		axe	Glenham	SK 97389	Lincoln 16.58	tuff	
90		axe	Swaby (Belleau Bridge)	TF 402777	Lincoln 40.63	VI medium	
91		axe	Boston	TF 327435	Lincoln 4.62	VI fine	
92		axe	Goltho	TF 1176	Lincoln 30.61	VI medium	
93		axe	Saxilby (Ingleby)	SK 885784	Lincoln 36.61	VIII	
94		exe	Langtoft	TF 118115	Lincoln 35.61	near I	
95		axe	Leaslingham	TF 076482	Lincoln 107.70	VI medium	
96		axe	Mareham-le-Pen	TF 283583	pp	VI fine	
97		axe, fr	Owmbly by Spital (Cliff)	SK 975865	Lincoln 36.62	VI fine	
98		axe	Tattershall	TF 206576	Lincoln 41.57	VI medium	
99		axe	Tetford	TF 334739	Lincoln 54.63	VI fine	
100		exe	Tetford	TF 3070	Lincoln 100.70	VI fine	*
101		axe	West Rasen	TF 033887	Lincoln 41.62	XX	
102		axe	Woodhall Spa	TF 199661	Lincoln 53.83	VI fine	
103		axe	unprovenanced	-	Lincoln 15.62	tuff	*
104		axe	Welton	TF 013806	pp	VI medium	
105		axe	Gosberton Cheal	TF 223287	Lincoln 74.73	gabbro	
106		axe	Brigg (Brickyard, 1884)	SE 993075	pp	VI medium	
107		axe	Brigg (Brickyard)	SE 994072	pp	VI fine	
108		axe	Temple Bruer (Crow Bottom)	SK 995527	pp	epidiorite	
109		axe	Hibaldstow	SE 981023	pp	tuff	
110		axe, fr	Northorpe (Eau Bank)	SK 883974	pp	VI fine	
111		axe	Springthorpe (Grange)	SK 896905	pp	tuff	
112		axe	Brampton, Dickinson's Fm	SK 835799	pp	tuff	
113		axe, fr ?	Willoughton	SK 934970	pp	tuff	
114		axe, waisted ?	Messingham	SE 909036	pp	greywacke	
115		axe, perf	Broughton (Common)	SE 980091	pp	spotted slate	
116		axe	Alkborough	SE 886214	Scunthorpe AK AB	VI banded	
117		axe	Brumby	SE 9110	Scunthorpe BM AJ1	XX	
118		b-a, fr	Roxby cum Risby, Risby Warren	SE 9213	Scunthorpe RW AA1	XVIII	
119		axe, fr	nr Scunthorpe	SE 9010	Scunthorpe SC AA1	VI medium	
120		axe	Scunthorpe (Crosby Warren)	SE 915130	Scunthorpe CR WF	tuff	
121		axe	Scunthorpe (Brumby)	SE 9110	Scunthorpe BM AJ2	VI medium	
122		axe	Roxby cum Risby (Risby Warren)	SE 9213	Scunthorpe RW AA2	VI fine	
123		axe	Normanby	SE 884173	Scunthorpe BS NT1	I	
124		axe	Bagmoor	SE 898160	Scunthorpe BS AT1	I	
125		axe	Broughton	SE 953081	Scunthorpe BH AF	epidiorite	
126		axe, fr	Bagmoor	SE 898160	Scunthorpe BS AT2	acid tuff	
127		axe	Normanby (Park)	SE 890160	Scunthorpe BS NP1	VI fine	
128		axe	Scunthorpe (Ashby)	SE 920083	Scunthorpe AS BD1	VI medium	
129		axe, fr	Scunthorpe (Brumby)	SE 889100	Scunthorpe BM AI	near XVIII	
130		axe	Scunthorpe (Crosby)	SE 886118	Scunthorpe CR BB	microgranodiorite	
131		axe, fr	Roxby cum Risby (Risby Warren)	SE 9213	Scunthorpe RW AA3	lithic sandstone	
132		axe	Riby	TA 1807	Scunthorpe RI AA1	VI medium	
133		axe	Kirton in Lindsey	SK 942976	Scunthorpe KL AB2	VI medium	
134		axe	Kirton in Lindsey	SK 942976	Scunthorpe KL A83	VI fine	
135		axe	Wrawby	TA 023086	Scunthorpe WRA AC	VI medium	
136		axe	Elsham	TX 018110	Scunthorpe EL AG	near XVIII	
137		mace	Burton-on-Stather (Thealby)	SE 884176	Scunthorpe TH DA1	lithic sandstone	
138		axe	Scotter	SE 886003	Scunthorpe SR AC	VI banded	
139		axe	Bagmoor	SE 900167	Scunthorpe BS AB	VI fine	
140		axe	Bagmoor	SE 9016	Scunthorpe BS AA1	near XVIII	
141		axe	Roxby cum Risby (Roxby)	SE 9217	Scunthorpe RX BA2	quartz syenite	
142		axe	Bagmoor	SE 906168	Scunthorpe BS BE	dolerite	
143		axe	Bagmoor	SE 896165	Scunthorpe BS AE1	dolerite	
144		a-h adze	Roxby cum Riaby (Roxby)	SE 9217	Scunthorpe RX BA1	lithic sandstone	
145		axe	Burton on Stather (Thealby)	SE 884176	Scunthorpe TH DA2	VI fine	
146		axe	Scunthorpe (Frodingham)	SE 894109	Scunthorpe FR AG	diorite	
147		axe, fr	Holme	SE 909061	Scunthorpe HO AC	tuff	
148		axe, fr	Burton on Stather (Thealby)	SE 884176	Scunthorpe TH DA3	tremolite fels	
149		axe	Bishop Norton	SK 9892	Scunthorpe BI AA	I	
150		axe	Burton on Stather (Thealby)	SE 884176	Scunthorpe TG DA4	VII	
151		axe	Burton on Stather (Bagmoor)	SE 9016	Scunthorpe BS AA2	VI fine	
152		axe	Bottesford (Yaddlethorpe)	SE 878067	Scunthorpe BO YB	XXIV	
153		axe	Broughton (Castlethorpe)	SE 987071	Scunthorpe BH BB	VI medium	
154		axe	Belton (Temple Belwood)	SE 8008	Scunthorpe BL AD	VI medium	
155		axe, fr	Scunthorpe (Crosby)	SE 882127	Scunthorpe CR AV	greywacke	
156		axe	Scunthorpe-Croebly	SE 893120	Scunthorpe CR CA	near XVIII	
157		axe	N.W. Lincs	-	Scunthorpe UN FB	VI medium	
158		axe	Burton on Stather (Thealby)	SE 884176	Scunthorpe TH DA5	VII	
159		axe	Snitterby	TF 007945	Scunthorpe SB AB	VI fine	
160		axe	Manton	SE 928024	Scunthorpe MT BA2	VI fine	
161		axe	Manton	SE 928024	Scunthorpe NT BA1	VII	
162		axe	Ingoldmells	TF 575687	Mansfield	VI medium	
163		axe	Kirton Holme	TF 276415	pp	VI banded	
164		axe	Tetford (Blackhill)	TF 333736	pp	VI medium	
165		axe	Salmonby	TF 3273	pp	sandstone	
166		axe	Stow (Stow Park)	SK 865811	Retford	VI medium	
167		axe	Skellingthorpe	SK 920720	Lincoln 357.27A	VI medium	*
168		b-a, fr	Ancaster	-	Nottingham Univ 68.6	near XVIII	

N.O.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
169		axe	Sudbrook	SK 9445	Nottingham Univ 69.108	tuff	
170		axe	Bassingham	SK 909597	pp	near I	
171		axe, fr	Ancaster	SK 998455	Nottingham Univ 66.106	XX	
172		axe	Thoresway	TF 168957	pp	XVIII	
173		axe	Thoresway	TF 169960	pp	VI banded	
174		axe	Stainton-le-Vale	TF 189941	pp	VI medium	
175		axe	Winteringham	SE 947213	pp	VI medium	
176		axe, fr	Appleby	SE 967117	Westmoor Sec Sch	VII	
177		axe, fr	Winterton	SE 931189	pp	VI banded	
178		axe, fr	Thoresway	TF 179963	pp	VI medium	
179		axe, fr	Winteringham	SE 947213	pp	VI medium	
180		axe	North Lincolnshire		pp	VI banded	
181		axe, fr	Winterton	SE 927179	pp	VI medium	
182		axe, fr	Thoresway	TF 155958	pp	VI medium	
183		axe, fr	Thoresway	TF 178966	pp	VI medium	
184		axe, fr	Thoresway	TF 169969	pp	VII	
185		axe, fr	Walesby	TF 139954	pp	tuff	*
186		axe, fr	Ingham	SK 957829	pp	VI medium	
187		axe, fr	Winterton	SE 929179	pp	VI fine	
188		axe, fr	Ludford	TF 210896	Scunthorpe IF AB 49	VI medium	
189		axe, fr	Scunthorpe (Dragonby)	SE 905138	Scunthorpe DR Bo 70	tuff	
190		axe, fr	Scunthorpe (Dragonby)	SE 901141	Scunthorpe RX BE	VI fine	
191		axe, fr	Normanby	SE 884173	Scunthorpe BS NT 2	VI banded	
192		axe, fr	Scunthorpe (Crosby Warren)	SE 9013	Scunthorpe CR WA	VI fine	
193		axe, fr	Roxby cum Risby (Risby Warren)	SE 919132	Scunthorpe RW AF 1	VI banded	
194		a-h, fr	Roxby cum Risby (Risby Warren)	SE 919132	Scunthorpe RW AD 2	lithic sandstone	
195		axe, fr	Roxby cum Risby (Risby Warren)	SE 9213	Scunthorpe RW AA 4	tuff	
196		axe, fr	Kirmington	TA 0911	Scunthorpe KM AS	VI fine	
197		axe, fr	Burton on Stather (Bagmoor)	SE 897163	Scunthorpe BS AD	VII	
198		axe, fr	Burton on Stather (Bagmoor)	SE 900163	Scunthorpe BS AC 1	VII	
199		axe, fr	Burton on Stather (Bagmoor)	SE 9016	Scunthorpe BS AA 4	VI fine	
200		unknown	Alvingham	TF 3691	unknown	XVIII	*
201		axe, fr	Burton on Stather (Bagmoor)	SE 9016	Scunthorpe BS AS 3	VI medium	
202		axe, fr	Burton on Stather (Bagmoor)	SE 896165	Scunthorpe BS AE 2	VI fine	
203		axe, fr	Burton on Stather (Bagmoor)	SE 900163	Scunthorpe BS AC 2	VII	
204		axe, fr	Burton on Stather (Bagmoor)	SE 9016	Scunthorpe BS BG	VI coarse	
205		axe	Scotton	SK 879987	Scunthorpe SN AD	quartz diorite	
206		axe	Burton on Stather (Bagmoor)	SE 699170	Scunthorpe BS AN F	near XVII	
207		axe	Burton on Stather (Bagmoor)	SE 899170	Scunthorpe BS AN 2	quartz microdiorite	
208		axe	Burton on Stather (Bagmoor)	SE 899170	Scunthorpe BS AN 3	VI banded	
209		axe	Scotter	SE 865002	Scunthorpe SR AE	VI fine	
210		mace, ovoid	Scawby	SE 9605	Scunthorpe SW AA	epidiorite	
211		a-h	Epworth	SE 7804	Scunthorpe EP AA	XIV	
212		axe	Saxby (Bonby)	TA 0016	Scunthorpe SX AA	VI medium	
213		a-h	Swallow	TA 165036	Scunthorpe SL AB	XVIII	
214		rubber	Burton on Stather (Bagmoor)	SE 9016	Scunthorpe BS AA 7	quartzite	
215		axe	Flixborough	SE 8814	Scunthorpe FX AL	VI medium	
216		axe	Bigby	TA 025066	Scunthorpe BG AB	VII	
217		a-h	Bigby (Kettleby Thorpe)	TA 0407	Scunthorpe DG KI	XVIII	
218		axe	Burton on Stather (Bagmoor)	SE 9016	Scunthorpe BS AS 8	VI fine	
219		b-a	?Brigg	TA 0007	Nottingham Castle	XII	
220		axe	North Kyme	TF 152502	Lincoln 21.66	VII	*
221		axe	Atterby	TF 018940	Lincoln 10.65/1	VI fine	
222		axe	Alford	TF 456759	pp	VI medium	
223		axe	Bracebridge Heath	SK 993663	Lincoln 2.67	I	
224		axe	Greetwell	TF 037713	Lincoln 5.65	tremolite fels	
225		axe	Fenton	SK 847766	Lincoln 9.70	VI banded	
226		axe	Digby	TF 117549	Lincoln 42.70	VI medium	*
227		axe	Sturton by Stow	SK 891602	pp	VI coarse	
228		axe	Broxholme	SK 911788	Lincoln 13.65	VI medium	*
229		axe	Digby	TF 117549	Lincoln 42.70	epidiorite	
230		axe	Bishop Norton (Beck Farm)	SK 9090	Lincoln 31.64	quartz gabbro	
231		axe	Lincoln. Doddington Road	SK 954678	Lincoln 11.66	VI medium	
232		axe	Atterby	TF 019942	Lincoln 10.65/2	VI medium	*
233		axe	Tetford	TF 338760	Lincoln 18.70	VI banded	
234		axe, fr	Tetford	TF 343750	Lincoln 18.70	VI medium	
235		axe, fr	Cherry Willingham	TF 035720	pp	VI coarse	
236		axe	Fishtoft	TF 363421	pp	VI medium	
237		axe	nr Lincoln	-	Lincoln 667.09	epidiorite	
238		a-h	Somerby (Ashby Puerorum)	TF 318724	Lincoln 51.55	gabbro	
239		a-h	Baumber	TF 2274	Lincoln 21.54	XVIII	
240		a-h	Cleethorpes	TA 3007	Lincoln 14.24	schist	
241		a-h	Stainfield. Hall Farm	TF 112724	Lincoln 63.72	near XVIII	
242		a-h	Sudbrook (Park)	TF 0475	Lincoln 77.30	XVIII	
243		a-h	Waddingham	SK 9897	Lincoln 484.11	sandstone	
244		a-h	?Lincolnshire	-	Lincoln (Hunt Coll)	near XVIII	
245		a-h	?Lincolnshire	-	Lincoln (?Hunt Coll)	near XVIII	
246		s-h adze	Harmston	SK 9762	Lincoln 36.32	XVIII	
247		b-a, fr	Grainsby (Grange Farm)	TF 2799	Lincoln 4.40	quartz diorite	
248		b-a, fr	Grainsby	TF 2799	Lincoln 23.60	XVIII	
249		b-a, fr	Hackthorn	SK 977804	Lincoln 30.32	XIV	
250		mace	Newball	TF 0776	Lincoln 84.51	sandstone	
251		mace, ovoid	Lincoln	SK 97	Lincoln 306.14	spotted slate	
252		axe	Legsby (Bleasby Moor)	TF 129837	pp	tuff	*
253		axe	?Tattershall area	TF 2258	Gartree school	tuff	*
254		axe	Tattershall	TF 210565	Lincoln 63.59	tremolite fels	*
255		axe, fr	Newton/N. Clifton	SK 623729	pp	VII	*
256		axe, fr	Newton/N. Clifton	SK 823729	pp	VI banded	*
257		axe, fr	Newton/N. Clifton	SK 823729	pp	Lava	*
258		axe, fr	Newton/N. Clifton	SK 823729	pp	VI medium	*
259		axe, fr	Newton/N. Clifton	SK 823729	pp	VI medium	*
260		axe, fr	Newton/N. Clifton	SK 623729	pp	VI medium	*

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
261		axe, fr	Newton/N. Clifton	SK 823729	PP	VI banded	*
262		b-a, fr	Fishtoft	TF 363421	PP	amphibolite	
263		b-a	Nocton	TF 079655	Lincoln 16.71	XII	
264		a-h	?Lincolnshire		Lincoln (Hunt Coll)	sandstone	
265		axe	Holton-le-Moor	TF 080985	Lincoln 42.71	xx	
266		axe	South Kelsey	TF 042990	Lincoln 43.71	VI banded	
267		pace, cushion. fr	Great Hale	TF 148427	Lincoln 1.49	VI banded	
268		axe, fr	Owmbly by Spital (Cliff)	SK 969867	Scunthorpe (loan)	tuff	
269		axe, fr	Scawby	SE 980053	Scunthorpe (loan)	lave	
270		axe, fr	Fishtoft	TF 384421	PP	xx	
271		axe, waisted	Long Bennington	SK 840434	Newark 26.67	acid tuff	
272		a-h	Dunston Fen	TF 1065	Lincoln 354.37	XIV	
273		axe	Lincolnshire Wolds	-	Bury St Edmunds E118	VI medium	
274		s-h adze, fr	Navenby	TF 017185	Lincoln 3.67	sandstone	
275		axe	Normanby by Spital	SK 981882	Scunthorpe NS AB	VI coarse	
276		b-a, unfin	Scunthorps (Brumby)	SE 882091	Scunthorpe 128.67	near XVIII	
277		axe	Waddingham	TF 005955	Scunthorpe WAD BA	VIII	
278		axe, fr	Burton on Stather Bagmoor	SE 896185	Scunthorpe BS AE 3	VI banded	
279		axe, fr	Burton on Stather Bagmoor	SE 896165	Scunthorpe BS AE 4	VII	
280		axe, fr	Burton on Stather Bagmoor	SE 9017	Scunthorpe BS BT 2	acid tuff	
282		axe	Redbourne	SK 998966	Scunthorpe RD AB	VI medium	
282		axe	Burton on Stather Thealby	SE 884176	Scunthorpe TH DA 6	VII	
283		axe	Burton on Stather Bagmoor	SE 876162	Scunthorpe BS NB	VI medium	
284		axe	Lincolnshire	-	Scunthorpe UN FB 2	lava	
285		hammer, perf	Bottesford Leys Fm Est	SE 887074	Scunthorpe BO LA	xv	
286		axe, fr	Roxby cum Risby (Risby Warren)	SE 923130	Scunthorpe RW CK	tuff	
287		mlsc artefact	Burton on Stather Bagmoor	SE 897167	Scunthorpe BS AR 1	sandy tuff	
288		axe, fr	Scotton	SK 881988	Scunthorpe SN AE 2	VI fine	
289		axe, fr	Scotton	SE 901000	Scunthorpe SN AB	quartzite	
290		axe, fr	Burton on Stather Bagmoor	BE 900163	Scunthorpe BS AC 3	VII	
291		axe, fr	Roxby cum Risby (Risby Warren)	SE 922135	Scunthorpe RW CH	VII	
292		axe, fr	Roxby cum Risby (Risby Warren)	SE 9213	Scunthorpe RW AA 7	chert	
293		axe, fr	Roxby cum Risby (Risby Warren)	SE 9213	Scunthorpe RW AS 6	VII	
294		axe, fr	Burton on Stather Bagmoor	SE 9016	Scunthorpe BS AA 12	VI fine	
295		axe, fr	Burton on Stather Bagmoor	SE 900163	Scunthorpe BS AC4	VII	
296		axe, fr	Scotton	SK 881988	Scunthorps SW AE1	VI medium	
297		axe, fr	Broughton (Common)	SE 9809	Scunthorpe BH AE	VI medium	
298		axe, fr	Burton on Stather Bagmoor	SE 900163	Scunthorpe BS AC 5	VII	
299		axe, fr	Barrow on Humber	TA 958202	Scunthorpe BR AK	VI fine	
300		axe, fr	Burton on Stather Bagmoor	SE 897167	Scunthorpe BS AR	chert	
301		axe, fr	Roxby cum Risby (Risby Warren)	SE 920132	Scunthorpe RW CF	VI fine	
302		axe	Roxby cum Riaby (Risby Warren)	SE 921135	Scunthorps RW CG	VI medium	
303		axe, fr	unprovenanced	-	Scunthorpe UN FB 3	VI medium	
304		axe	unprovenanced	-	Scunthorpe UN FB 4	VI medium	
305		a-h	Scunthorps (Crosby Warren)	SE 905132	Scunthorpe CR WM	near XVIII	
306		b-a	Roxby cum Risby (Risby Warren)	SE 9213	Scunthorpe RW AS9/AA 2	lithic sandstone	
307		a-h	nr Saxilby	SK 8976	Lincoln 10661/06	dolerite	
308		a-h	North Kelsey (Moor)	TA 0702	Lincoln 445.13	XVIII	
309		mace	Ludford	TF 210895	Lincoln 4.72	XVIII	
310		b-a	Ropsley	SK 978346	Lincoln 49.60	near XVIII	
311		pebble mace	Barlings	TF 065757	Lincoln 23.67	lithic sandstone	
312		axe	Westborough	SK 8544	Grantham 3366	VI medium	
313		axe, fr	Marston	SK 892439	Grantham 3337	VII	
314		axe	?Grantham	-	Grantham 3431	I	
315		axe, fr	Harlaxton (Field B)	SK 885344	Grantham	VI coarse	
316		axe, fr	Harlaxton (Field A)	SK 884342	Grantham	VIII	
317		axe, fr	Harlaxton (Field C)	SK 882347	Grantham	tuff	
318		axe, fr	Harlaxton (Field C)	SK 882367	Grantham	VI coarse	
319		axe	Grantham area	-	Grantham 671a	VI banded	
320		axe	Normanton or Carlton Scroop	SK 9445	Grantham 2577	VI medium	
321		a-h	Caythorpe (Churchyard)	SK 939465	Grantham 3389	lithic sandstone	
322		b-a	Nogsthorpe	TF 541723	Lincoln 14.72	amphibolite	
323		axe	South Kelsey (Wingel Priory)	TF 029989	BM Sturge 467	I	
324		axe	South Kelsey (Wingel Priory)	TF 029969	BM Sturge 204	VI fine	
325		axe	Spalding	TF 2422	BM Sturge	limestone	
326		axe	Mavis Enderby	TF 3060	BM 1942-6-7-1	VI fine	
327		axe, fr	Barkston	SK 928434	Grantham	VI fine	
328		axe	Lea	SK 845860	PP	XX	
329		axe	Lea	SK 845980	PP	VI medium	
330		axe	Normanby-le-Wold	TF 126941	Lincoln	coarse lithic sandstone	
331		axe, fr	Belchford	TF 290753	PP	VI medium	
332		axe, fr	Belchford	TF 290763	PP	VI banded	
333		axe	Saxilby (Sykes Lane)	SK 885768	PP	VI coarse	
334		axe	Bourne (Dyke)	TF 116228	Bourne Sec School	tuff	
335		axe	Baston	TF 125148	Bourne Sec School	I	
336		axe	Ropsley	TF 019326	PP	VI medium	
337		axe	Osbournby	TF 083385	PP	VI coarse	
338		mace	Lincoln (Burton Road)	SK 9772	Lincoln 20.15	sandstone	
339		axe	Little Ponton	SK 926333	Lincoln 56.72	amphibolite	*
340		axe	Coningsby (Moor)	TF 254567	PP	VI medium	
341		axe	Hareham-le-Fen	TF 282581	PP	XXIV	
342		axe	Norton Disney	SK 905596	PP	VI fine	
343		axe	Kesteven (Grantham ares)	-	PP	VI fine	
344		axe	Torksey	SK 8378	PP	VI medium	
345		flake tool	Fishtoft	TF 384421	PP	VII	
346		mace, fr	Fishtoft	TF 364421	PP	lithic sandstone	
347		mace, fr	Fishtoft	TF 364421	PP	lithic sandstone	
348		a-h, IIb (?)	Langtoft	TF 149125	PP	XII	
349		axe, fr	Greetwell	TF 003721	PP	xx	
350		axe, pt perf	nr Tealby	TF 1690	Lincoln 78.73	VII	
351		b-a, li	Branston	TF 068684	Lincoln 1.73	xv	*
352		a-h	Lea	SK 8386	Lincoln CL 7.80	quartz diorite	
353		axe	Gauthy	TF 181725	Lincoln 72.73	tuff	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
354		axe. fr	Scawby (H)	SE 975060	PP	VI	
355		axe, pt	Crosby/Risby Warren (H)	SE 9010	PP	VI	
356		axe, fr	Osbourneby	TF 063385	PP	tuff	*
357		axe	Frodingham (H)	SE 8910	Doncaster 307x	I	
358		axe	Revesby, Moorhouses	TF 288057	Tattershall Castle	I	
359		axe	Woodhall Spa, Witham Fm	TF 182629	PP	VI	
360		axe, fr	Dorrington	TF 105540	Lincoln 126.74	VII	
361		axe, fr	Willoughton	SK 934927	PP	VI	
362		axe	Louth Park	TP 3080	Louth Mus	VI	
363		axe	Stewton	TF 3687	Louth Mus	xv	
364		axe	Tathwell	TF 318828	Louth Mus	VI	
365		axe, pt	nr Caistor	TA 1103	Louth Mus	chert	
366		flake	Swinhope, nr Ash Hill long barr- OW	TF 209961	Lincoln 105.35	VI	
367		axe, pt	Manton Warren (H)	SE 928024	Scunthorpe MTBB 1	carbonaceous siltstone	
368		axe	Salmonby	TF 3274	Lincoln 26.74	near XVIII	
369		p-h	Wrangle	TF 433525	PP	quartz greywacke	
370		axe	Mareham le Fen	TF 280576	PP	VI	
371		axe, fr	Deeping St James	TF 165100	PP	I	
372		axe	Baston	TF 1114	Peterborough L965/A	VI	
373		knife, discoidal	Burton upon Stather, Bagmoor (H)	SE 9016	Scunthorpe BS AA 6	sandstone	
374		axe	Spalding	TF 2422	AshM 1927.3502	dolerite	*
375		axe	Alford	TF 435760	AshM 1921.1409	I	
376		axe	Baston Fen	TF 1416	RCW OS537	tuff	
377		hammer, perf	Baston Fen	TF 1416	RCM OS542	greywacke	
378		axe, fr	Barholm	TF 101102	Welland Valley Res C- ttee	VII	*
379		axe, fr	Barholm	TP 101102	Welland Valley Res C- ttee	VII	*
380		axe, fr	Barholm	TF 101102	Welland Valley Res C- ttee	VII	*
381		axe	Corringham, Somerby	SK 846897	Lincoln 141.74	VI	*
382		s-h adze	Westborough	SK 856444	Newark Mus 42.65	diorite	
383		a-h, fr	Risby Warren (H)	SE 9213	BM Armstrong coll	near XVIII	
384		axe	Roxby cum Risby (H)	SE 9217	BM Armstrong S.324-339	tuff	
385		axe, flake	Roxby cum Risby (H)	SE 9217	BM Pavell coll	VII	
386		axe, fr	Scunthorpe, Crosby Warren (H)	SE 9113	BM Armstrong S.324	xx	
387		axe	Denton	SK 847326	PP	greywacke	
388		axe	North Scarle	SK 8567	PP	tuff	
389		axe	Dowsby Fen	TF 142291	Spalding Gent Soc	VI	
390		a-h	?Spalding area		Spalding Gent Soc	xv	
391		mace	Grantham	SK 9230	Spalding Gent Soc	sandstone	*
392		axe	Billinghay	TF 1554	Lincoln 135.74	greenstone	*
393		axe, pt perf	Lincoln. Broadgate	SK 978713	Linc Arch Trust	greenstone	*
394		axe	Lea	SK 844861	PP	VI	
395		p-h	Glentham	TF 004909	Lincoln 38.61	quartzite (ns)	
396		axe, pt	Barnetby le Wold (H)	TA 053095	PP	VII	
397		a-h, fr. pt per-f	Welton le Harsh	TF 480693	Lincoln 9.48	XVIII	
398		axe	Branston	TF 0568	PP	sheared crystal lithic tuff	
399		axe	?Corby Glen	TF 0025	Grantham DN 3441	VII	
400		axe, fr	Grantham. Belton Lane	SK 921370	Grantham DN 2998	VII	
401		axe	Normanton	SK 9647	Grantham	VI	
402		axe	?Grantham area		Grantham SA 1	VI	
403		axe	Sleaford area		Grantham SA 34	VI	
404		axe	Carlton Scroop	SK 9445	Grantham DN 2799	VI	
405		axe, fr	Harlaxton	SK 884342	Grantham. Haw coll	VI	
406		axe, fr	Harlaxton	SK 885344	Grantham. Haw coll	VI	
407		axe, fr	Barrowby	SK 8737	Grantham. Haw coll	VI	
408		axe, fr	Barrowby	SK 8737	Grantham. Haw coll	VIII	
409		axe, fr	Barrowby	SK 8737	Grantham. Haw coll	XVIII	
410		axe, fr	Harlaxton	SK 876352	Grantham. Haw coll	tuff	
411		axe, fr	Barrowby	SK 877354	Grantham. Haw coll	VI	
412		axe, fr	Barrowby	SK 877354	Grantham. Haw coll	VI	
413		axe, fr	?Barrowby	SK 8737?	Grantham, Haw coll	VI	
414		axe, rewk'd	Long Bennington	SK 829472	TVARC	tuff	
415		axe	Crowle (H)	SE 771121	PP	VI	
416		axe	Rowston Grange	TF 0756	PP	VI	
417		axe	Rowston Grange	TF 0756	PP	VI	
418		axe	Rowston Grange	TF 0756	PP	VI	
419		axe	Rowston Grange	TF 0756	PP	VII	
420		axe	Rowston Grange	TF 0756	PP	I	
421		axe	Rowston Grange	TF 0756	PP	near XX	
422		axe	Rowston Grange	TF 0756	PP	VII	
423		axe	Nettleham area		Lincoln 52.76	greenstone	
424		axe, pt	Waddington	SK 977660	Lincoln 45.76	tuff	*
425		axe	Gunby	SK 903207	PP	near VIII	
426		b-a. II	Bardney, Southrey	TF 1366	BM WC 502	near XVIII	
427		axe	Low Caythorpe	SK 9448	DbM 410.55.59	acid crystal tuff	
428		axe, fr	Billingborough	TF 136366	SLAU	VI	*
429		axe	Howell	TF 148476	PP	VI	
430		axe	Somersby, Stainsby	TF 335713	Lincoln 240.77	porphyritic basalt	
431		axe	Stixwold	TF 173636	Lincoln 276.76	VII	
432		axe	Goltho	TF 115774	Lincoln 70.77	VII	
433		axe	Caistor, Fonaby Top	TA 125032	PP	VI	
434		p-h	Ewerby, Waltham Fm	TF 1449	Grantham DN 2655	quartzite (ns)	
435		axe, pt	Fiskerton	TF 050721	Lincoln 199.77	VI	
436		axe	Kettlethorpe, Plot Fm	SK 849741	Lincoln 206.78	VI	*
437		axe	Kirby on Bain (1)	TF 2363	Pilgrim Coll. Boston	near XX	
438		mace	Kirby on Bain (4)	TF 2363	Pilgrim Coll. Boston	VI	
439		axe	Kirby on Bain (5)	TF 2363	Pilgrim Coll. Boston	altered amygdaloidal basalt	
440		mace, cushion, pt	Kirby on Bain (6)	TF 2363	Pilgrim Coll. Boston	metatuff	*
441		axe	Kirby on Bain (7)	TF 2363	Pilgrim College, Bos ton	VI	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
442		axe, re-sharpened	North Elkington	TF 286915	Sleaford High Sch	VI	
443		p-h	Quarrington	TF 0544	SLAU	quartzite (ns)	
444		a-h, fr	Billingborough	TF 126334	SLAU	XVIII	*
445		axe, flake	Owmbly	SK 970867	PP	VI (ns)	
446		a-h, 11b	Holton-le-Moor	TF 0898	BM Sturge coll	XVIII	
447		a-h	Wroot Grange (H)	SE 7101	Doncaster W S 145.65	XVIII	
448		axe	Scunthorpe (H)	SE 9010	Doncaster 79.14	VI	
449		axe, rwkd	Tumby Woodside	TF 2560	Stamford 1307	VI	
450		axe	?Barholm	TF 0911?	Stamford N936	VI	
451		a-h	Castle Bytham	SK 9719	Stamford N217L	fossiliferous ferruginous lime-stone (ns)	
452		axe	Bracebridge Heath	SK 9868	PP	VII	
453		axe	Horncastle	TF 2669	CUMAE z 17274	VI	
454		axe	Barholm	TF 0911	CUWAE 61.202	VI	
455		axe, flake	Ropsley and Humby	TF 019326	SLAU	VI (ns)	
456		axe, Fr	Ropsley and Humby	SK 998349	SLAU	xx	
457		axe	Haxey, Haslam Farm	SE 753009	Scunthorpe (loan)	VI	
458		disc, disc	Bigby, Kettleby	TA 046069	Scunthorpe BGAC	metagreywacke	
459		b-a, pt. rewkd	Ropsley and Humby	TF 015329	SLAU	dolerite	

Nottinghamshire (additions to Cummins & Moore, 1973)

N0.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Gringley on the Hill	SK 7491	PP	lava	
2		axe	Oxton (Grange Farm)	SK 627541	Mansfield	I	
3		axe	Kelham	SK 776557	Mansfield	tuff	
4		axe	Kelham (R. Trent)	SK 7755	Nottingham Univ	epidiorite	*
5		axe	Netherfield (R. Trent)	SK 6240	Lincoln 317.12	VI fine	*
6		axe	Netherfield (R. Trent)	SK 6240	Lincoln 318.12	VI fine	*
7		axe	Netherfield (R. Trent)	SK 6240	Lincoln 319.12	VI fine	*
8		axe	North Muskham	SK 751588	Newark 26.55	VI fine	
9		axe	North Muakham	SK 791588	Newark 26.55	VI fine	
10		axe	South Leverton	SK 780806	Retford	epidiorite	
11		axe, fr	Radcliffe on Soar	SK 494306	PP	VI fine	
12		axe	Nottingham (Friar Lane)	SK 570397	Nottingham Castle 26.130	sandstone	
13		axe	Holme Pierrpont	SK 630395	Nottingham Castle 65	VI medium	
14		axe	Lambley	SK 629451	Nottingham Castle 65.142	VI medium	
15		axe	Workshop	SK 5879	Nottingham Univ	tuff	
16		axe, fr	Kelham (R. Trentbridge)	SK 775558	Nottingham Univ 57.2	VI medium	
17		axe	Attenborough	SK 5234	Nottingham Univ	VI medium	
17		axe	Attenborough	SK 5234	Nottingham Univ 13	xx	
19		axe	Workshop	SK 5879	Nottingham Univ 51.2	greywacke	
20		pestle, fr	Attenborough	SK 5234	Nottingham Univ 62.3	acid tuff	
21		axe	Workshop		Nottstet Univ 513	epidiorlte	*
22		axe	Workshop	=	Nottingham Univ 514	diorite	*
23		axe	Shelford	SK 658416	Nottingham Univ	VII	
24		axe, fr	Farnsfield	SK 632552	Nottingham Univ	I medium	
25		axe	Sutton in Ashfield (24 Greenbank Drive)	SK 494599	PP	I	
26		axe	Trent Lane	SK 591388	Nottingham Univ 321	acid tuff	
27		axe	Nottingham (Middleton Boulevard)	SK 5439	Nottingham Univ	tuff	
28		axe, fr	Tuxford	SK 7170	Nottingham Univ 18/3 3986	VI fine	
29		axe, fr	Tuxford	SK 7170	Nottingham Univ 22/3 4986	VI fine	
30		axe	Suttong in Ashfield (Sutton Junction)	SK 510584	PP	VI fine	
31		axe	North Clifton (California Farm)	SK 840725	Newark 770.01	near VII	
32		axe	Hawton	SK 786511	Newark 13.40	VIII	
33		axe	Hawksworth	SK 754435	Newark 67.54	VI medium	
34		axe, pt perf	Car Colston	SK 722430	Newark 745.01	near I	
35		s-h adze	Kneesall	SK 698657	Newark 19.41	xv	
36		axe	East Bridgford, Margidunum	SK 7041	Nottingham Univ	VI medium	
37		axe	East Bridgford, Margidunum	SK 7041	Nottingham Univ	VI medium	
38		axe	East Bridgford, Margidunum	SK 7041	Nottingham Univ	VI fine	
39		axe	East Bridgford, Margidunum	SK 7041	Nottingham Univ	VI banded	
40		axe, fr	East Bridgford, Margidunum	SK 7041	Nottingham Univ	VII	
41		axe	Nottingham, Charlotte St	SK 573403	Nottingham Castle W. H.8	VI fine	
42		a-h	Nottingham, Charlotte St	SK 573403	Nottingham Castle	ollvine dolerite	
43		b-a	Mansfield (Sandpits)	SK 5459	Nottingham Univ	lithic sandstone	
44		s-h adze	Attenborough	SK 5133	Nottingham Univ 28	greywacke	
45		s-h. adze	Attenborough	SK 5133	Nottingham Univ	greywacke	
46		s-h adze	Attenborough	SK 5133	Nottingham Univ	hornblende schist	
47		pestle	Attenborough	SK 5133	Nottingham Univ	acid tuff	
48		axe	Colwick	SK 6139	Nottingham Univ 3001	VI medium	
49		axe	Attenborough	SK 5133	Nottingham Univ	VI fine	
50		axe	Bathley/N. Muskham	SK 784590	PP	xx	
51		axe	Little Morton	SK 685789	PP	VI banded	
52		axe	Southwell	-	Scunthorpe	tuff	*
53		axe	Bramcote (Hills)	SK 452386	Nottingham Castle 71.36	granodiorite	
54		axe, fr	Girton	SK 821680	Newark 771.1	VI medium	
55		axe	Tuxford	SK 707711	Newark 772.1	VI fine	
56		axe	South Collingham	SK 826608	Newark 773.1	VI banded	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
57		axe	Thorpe	SK 7750	Newark 774.1	VII	
58		axe	Laxton	SK 723671	Newark 21.39	acid tuff	
59		a-h	Moorhouse	SK 749662	Newark 31.52	lithic sandstone	
60		axe	Harby (Swinthorpe)	SK 870690	Newark 64.64	VI medium	
61		pestle	Walesby	SK 689714	pp	schistose grit	*
62		axe	Misterton Carr	SK 728950	Hull	VII	
63		mace	Walesby	SK 669714	pp	quartz dolerite	
64		axe	South Scarle	SK 8464	BM Sturge	VII	
65		axe	Workshop (Gateford Farm)	SK 581823	Workshop	VII	
66		axe, fr	Wallingwells	SK 575847	Workshop	VIII	
67		axe	Workshop	SK 568795	Workshop	VI fine	
68		axe, fr	Workshop (Scratta Wood)	SK 540791	Workshop	VI banded	
69		s-h	Workshop (Kilton)	SK 601794	Workshop	sandstone	
70		axe, fr	Workshop (Scratta Wood)	SK 540791	Workshop	VII	
71		axe	Carlton in Lindrick	SK 604844	Workshop	near I	
72		axe	Workshop (Scratta Wood)	SK 543797	Workshop	xx	
73		axe	Hodsock (Dyscar Wood)	SK 579873	Workshop	VI coarse	
74		axe	Misterton Carr	SK 728950	Doncaster	VI medium	*
75		axe	Shaftsworth	SK 658927	Doncaster	VI fine	
76		b-a	South Leverton	SK 7881	Doncaster 36.44	XVIII	
77		axe, fr	Workshop. Scrattawood	SK 540791	Workshop SF/S/248	VI	
78		axe, fr	Bleasby	SK 7149	pp	VI	
79		axe, fr	Clifton, 32 Scafell Way	SK 548334	NotM	VI	
80		axe, r-o	Holme Pierrepont	SK 628396	AshM 1968. 186	VII	*
81		axe	Colwick	SK 612396	Colwick Country Pk C	VI (ns)	
82		axe	Shelford. Swallow Field	SK 6642	entre	VI	*
83		axe	Whatton	SK 7439	pp	tremolite fels	
84		axe	Colwick	SK 607389	NotM 1981-4	altered quartz dolerite	
85		a-h. I b	Newstead, Abbeyfields Fm	SK 5352	NotM 1981-3	xv	
86		axe	Bawtry. Hall Fm	SK 645928	Doncaster 29.21	VI	
87		axe	Ratcliffe-on-Soar	SK 4928	pp	silicified mudstone	
88		axe	Nottingham. University	SK 5438	pp	banded acid tuff	*
89		axe	Misterton Carr. Field 476	SK 728950	Doncaster 4.M/C.1	greenstone	*
90		axe, fr	Misterton Carr	SK 728950	Doncaster M/C.2	VI	
91		axe, fr	Aslockton	SK 752401	pp	VIII	
92		axe	Gunthorpe. R Trent	SK 694447	Newark UB 1976	VI	
93		axe, fr	Nether Langwith, Bassetlaw	SK 542716	pp	VI	
94		a-h	Wollaton Park	SK 5339	Not M 1978. 858	xv	*
95		axe. pt	Cropwell Butler	SK 4928	pp	VI	
96		axe	Colwick	SK 616412	pp	VI (ns)	*
97		axe	Sibthorpe	SK 776456	Newark L.35.78	greenstone	
98		axe	Wilford. Main Street	SK 5637	pp	VII	*
99		axe. fr	Misterton Carr	SK 728950	pp	VII	*
100		axe. fr	Misterton Carr	SK 728950	Doncaster Mus loan	VI	*
101		axe	Misterton Carr	SK 728950	Doncaster Mus loan	VII	
102		axe	Brough	-	PP	VI (ns)	

Rutland (additions to Cummins & Moore, 1973)

No.	ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Market Overton	SK 8816	RCM OS 544	VI banded	
2		a-h	Hambleton	SK 8907	RCM OS 547	epidiorite	
3		axe	Thistleton	SK 9117	RCM OS 545	quartzite	*
4		axe	Oakham	SK 852089	RCM 1974.119	VI	
5		axe	Oakham. Warn Crescent	SK 849085	pp	VI	*
6		axe	Great Casterton	TF 013081	RCM 1976.6	VI	
7		axe	Cottesmore. The Leas	SK 902135	pp	VII	
8		axe	Pickworth	SK 9913	Stamford 1308	VI	

Notes

Derbyshire (additions to Moore & Cummins, 1974)

No.	Note	192	This Implement was almost certainly fashioned from a butt fragment of an axe
1	Marsden 1970. 206. fig 11	201	These three quartzite fragments are likely to come from the same implement, either a pebble-mace or axe They were associated with Late Neolithic pottery
31	Heathcote 1954. 130-1	203	This section is noted by Hope Sanderson 1970 as being in the collection of the Institute of Geological Sciences (ENQ 1501). but no further details are known about the implement
34	Manby 1965n This fragment comes from the excavation of a chambered tomb.	210	The implement is polished at both ends and Pecked in the middle
59	This implement may be an ethnographic stray	226	Found on the burred ground surface during pipelaying
90	Found in a barrow. Howarth 1899. 16 & 17	228	From Derby racecourse excavations 1974. small find 201, in a Roman ditch East Midlands Archaeol Bull 12 (1978). 1
120	Previously noted as being in the possession of the Derbyshire Schools Museum. Service (East Midlands Arch Bull 2. 1958. 1)	229	Fieldwork finds from Elton. together with flint arrowheads, scrapers and quantities of waste flakes East Midlands Archaeol Bull 10 (1974). 3. Derbyshire Archaeol J LXXXVIII (1966) 37-46
136	Henderson 1963. 71-7 From a barrow excavation		
187	Illustrated in Cummins & Moore 1973. fig 11. no 268. but listed in Moore & Cummins 1974		
188	The reference is Derbys Archaeol J 91 (1971)31-6 Associated with neolithic pottery		
189	See above		

No.	Note		
		100	L1 34 & 100 both found at Tetford The find spots, TF 339744 and TF 334749. are known, but it is not certain which axe came from which spot
		103	Probably an ethnographic stray
	See also Db 188-99 (Moore & Cummins 1974) for other finds from Elton	167	LI 64 and 167 found together
230-9 See above		185	Found on the site of a barrow producing Neolithic pottery
247	Surface find in association with worked flint	200	Thin section cut at Birmingham University Original implement not located
249	The stone circle where this was found remains unidentified (inf Mrs. F.E.S.Roe)	221	LI 221 and 232 both found at Atterby The find spots. TF 018940 and TF 018942. are known. but it is not certain which came from which spot
254	From excavations by Dr. J Collis 1975-6 (Collis 1983. 61-3) The provenances are Db 254. in the cairn. Db 255, three fragments from under the cairn. Db 256. three fragments, one in and two under the cairn: Db 257.eight fragments. including one in and four under the cairn. Db 283. one flake. from the old ground surface under the cairn Associated with Neolithic pottery	226 229 See above	LI 226 and 229 probably found together
255 See above		232	LI 221 and 232 both found at Atterby The find spots. TF 018940 and TF 018942. are known. but it is not certain which came from which spot
256 See above		253	Probably an ethnographic stray
257 See above		255	Surface finds associated with extensive Neolithic flint Industry.
258	Found in field walking associated with late Neolithic flint scatters	256 See above	
259 See above		257 See above	
260	From excavations of a late Neolithic (Grooved Ware) occupation site	258 See above	
262	Near Bleak Low. Derbyshire Archaeol J 83 (1962) 96 -100	259 See above	
277	A fragment of a shafthole implement of uncertain type	260 See above	
281	Surface find associated with late Neolithic and Early Bronze Age flints	261 See above	
282	Smith.W C. 1963. 157, no 9 & pl 18	339	Probably an ethnographic stray
283	Pro. excavations by Dr J Collis 1975-6 (Collis 1983.61-3) The provenances are Db 254. in the cairn: Db 255. three fragments from under the cairn: Db 256. three fragments, one and two under the cairn: Db 257. eight fragments. including one in and four under the cairn Db 283. one flake. from the old ground surface under the cairn. Associated with Neolithic pottery	351	Roe 1979. fig 1
		356	Oiled and used as a whetstone by the owner
		374	Evans 1897. 124
		376	From excavations by the Welland Valley Research Committee 1965 on a late Neolithic settlement site. associated with Grooved Ware (inf G Simpson)
		379 See above	
		380 See above	
		381	Surface find from excavation site at Somerby 1957 Lincs Hist & Archaeol 1. 4 (1969) 78 & fig 10
		391	Formerly in Leicester Museum. acc no C/63/1
		392	Formerly in Hull Wuseum acc no 500 42 181
		393	Found in post medieval levels in excavation
		423	Formerly in Ilfracombe Museum
		428	Surface find from. Bronze Age site
		436	A very deeply patinated specimen at first thought to be of chalk (Ambrose 1979. written before the axe had been sectioned)
		440	Similar to S144
		444	Found during excavation of a Bronze Age settlement site. but not in a dateable context

Leicestershire (additions to Moore & Cummins, 1974)

No.	Note
20	Le 20 and Le 21 were apparently found together
21 See above	
24	This implement may be an ethnographic stray
35 See above	
39 See above	
53	Found within the Iron Age fort

Lincolnshire (additions to Cummins & Moore, 1973) (H) after the place-name indicates that the parish is now in the county of Humberside

No.	Note
6	LI 6, 30 and 50 found together
19	LI 19 and 20 found together
20 See above	
30	LI. 30 and 50 found together.
34	LI 34 & 100 both found at Tetford The find spots. TF 339744 and TF 334749. are known. but It is not certain which axe came from which spot
38	LI 38 and 42 found together.
42 See above	
45	LI 45 and 49 found together
48	LI 6.30 and 50 found together
49	LI 45 and 49 found together.
64	LI 64 and 167 found together.
77	LI 77 and 78 found together.
78 See above	

Nottinghamshire (additions to Cummins & Moore, 1973)

No	Note
5	NOT 5, 6 and 7 found together
6 See above	
7 See above	
21	Probably an ethnographic stray
2 2 See above	
5 2 See above	
6 2	For the Misterton Carr finds in general. see Buckland & Dolby 1973 Specifically Not 62 is mentioned In text (ibid.). Not 74 is not mentioned, Not 89 (ibid. 20. fig 121 is wrongly allocated to Group I. Not 80 is not mentioned. Not 99 (ibid. 22. fig 13). Not 100 (ibid. 20. fig 12). Not 101 (ibid. 22. fig 13)
7 4	See NOT 62
80	Trans Thoroton Soc Nottinghamshire 82 (1978) 66-8 and pl
82	Found on ocupatlo" level at base of ploughsoil
89	See NOT 62
90	For the Misterton Carr finds in general. see Buckland & Dolby 1973 Specifically Not 62 JR mentioned In text (ibid.), Not 74 Is not mentioned. Not 89 (ibid. 20. fig 12) Is wrongly

Rutland (additions to Cummins & Moore, 1973)

Note	
allocated to Group 1: Not 90 is not mentioned; Not 99 (ibid. 22, fig. 13); Not 100 (ibid. 20, fig. 12); Not 101 (ibid. 22, fig. 13)	
94	With fluted sides. Formerly in Hanley Museum. Stoke on Trent. Evans J 1897. 202-4 & fig 132: VCH Notts I (1906) 186 & illus & refs
96	Found in a 19th-20th century rubbish pit by bottle-hunters
99	See NOT 62
100	See above
101	See above

No.	Note
4	Found on top of a wall at Vale of Catmose College, Cold Overton Road. True provenance unknown
6	Formerly In LeM. acc no 774.1951. Found In 1905 about 5m deep In a fissure In a stone quarry with human remains; full accounts of the discovery were published: Rutland Magazine 3 (1907-8) 13-21 Proc Roy Soc Edinburgh 26.4 (1905-6), 279-309

West Midlands**Herefordshire axes**

No.	Ser.	Implement	Locality	N.G.R.	Access ion	Petrology	
1c	169	axe	R Wye	-	Hereford 2495	near VIII (dp)	*
2c		axe, rewkd	Peterchurch	S0 3438	PP	VIII	
3c		axe	Kington	S0 296563	Ludlow 172	epidotised basalt	
4c		axe	Leintwardine	S0 420760	Ludlow 171	VII	
5c		axe	Craswall	S0 273378	PP	XXI	
6c		axe, fr	Dorstone	S0 3141	PP	aplitic granodiorite	
7c		axe, rewkd	Dorstone	S0 3141	PP	fine andesite	
8c		axe, pt	Dorstone	S0 3141	PP	andesite	
9c		disc, tanged	Dorstone	S0 3141	PP	greywacke siltstone (dp)	
10c		misc. chopper, discoidal	Peterchurch	S0 367384	PP	coarse greywacke (dp)	
11c		axe, fr	Peterchurch	S0 365383	PP	XXI	
12c		axe, rewkd	Vowchurch	S0 364375	PP	VIII	
13c		axe	Brampton Bryan	S0 371729	Hereford 6602	rhyolite	
14c		axe, rewkd	?nr Weobley	?S04051	PP	VII	
15c		axe	Walford	S0 382712	PP	andesitic ash	
16c		axe, fr	Dorstone	S0 330418	PP	VIII	
17c		axe	Craswall	S0 271390	Hereford 5789	silty shale	
18c		axe, fr	Dorstone	S0 326423	PP	fine andesitic tuff	
19c		axe, fr	Dorstone	S0 326423	PP	chert	
20c		flake	Staunton on Arrow	S0 363604	PP	XXI	
21c		flake	Peterchurch	S0 367382	PP	rhyolite ? (ns)	
22c		flake	Peterchurch	S0 365382	PP	rhyolite ? (ns)	
23c		axe, fr	Peterchurch	S0 351395	PP	rhyolitic tuff	
24c		flake	Peterchurch	S0 354384	PP	chalcedony (ns)	
25c		flake	Fownhope	S0 574335	PP	rhyolitic tuff	
26c		axe, fr	Tupsley	S0 537398	PP	VIII	
27c		axe, fr	Tupsley	S0 536398	PP	rhyolitic tuff	
28c		flake, discoidal	Pownhope	S0 597335	PP	VIII ?	
29c		wkd					
29c		axe, fr	Dinedor Hill	S0 536374	PP	VIII	
30c		axe, fr	Dinedor Hill	S0 536374	PP	fine andesitic tuff	
31c		axe, fr	Dinedor Hill	S0 536374	PP	cordierite hornfels	
32c		axe, fr	Dinedor Hill	S0 536374	PP	fine andesitic tuff	
33c		axe, fr	Dinedor Hill	S0 536374	PP	cordierite hornfels	
34c		axe, fr	Dinedor Hill	S0 536374	PP	tuffaceous shale	
35c		axe, fr	Dinedor Hill	S0 536374	PP	XXIII	
36c		axe	Hope under Dinedor	S0 502501	Hereford	epidotised andesitic tuff	*
37c		axe	Weobley	S0 380547	PP	rhyolite	
38c		axe, fr	Brampton Bryan	S0 385718	PP	XXI	
39c		axe, rewkd	Hentland	S0 531273	PP	XXI ?	
40c		axe, rewkd	Kington	S0 288564	PP	xxx ?	
41c		axe, fr	Eardisley	S0 294593	PP	tine grained rhyolitic tuff	
42c		axe	Orcop	S0 457260	Hereford	VIII	
43c		axe, rewkd	Eardisley	S0 287492	PP	VIII	
44c		axe, fr	Eardisley	S0 287492	PP	VIII	
45c		axe	Dormington	S0 396581	?	VII	
46c		axe	Buckton	S0 383473	?	andesitic tuff	
47c		axe, fr	Dorstone	S0 326423	PP	siliceous tuff	
48c		axe, fr	Dinedor Hill	S0 536374	PP	tine dacite	
49c		axe, rewkd	Dinedor Hill	S0 536374	PP	VII	
50c		flake	Dinedor Hill	S0 536374	PP	metamorphosed shale	
51c		axe, fr	Dinedor Hill	S0 536374	PP	VIII	
52c		axe, fr	Dinedor Hill	S0 536374	PP	VIII	
53c		axe, fr	Dinedor Hill	S0 541372	PP	XXIII	
54c		axe, rewkd to ?hammer	Eastnor. Widsummer hillfort	S0 782374	Birmingham	VII	
55c		axe	Almeley	S0 319509	Hereford	VI	
56c		axe	Welsh Newton	S0 491166	Hereford	epidiorite schist	
57c		axe, rewkd	Garway	S0 453222	PP	recrystallised quartzose tuff	
58c		axe, fr	Garway	S0 454224	PP	banded hornfels	
59c		axe, fr	Staunton on Wye. Baker's Hill	S0 346461	PP	fine andesitic tuff	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
60c		axe, fr	Staunton on Wye, Baker's Hill	SO 346461	pp	banded hornfels	
61c		axe	Elton	SO 4670	Ludlow 77/78	VI	
62c		axe, rewkd	Keep Hill, Bromyard	SO 3654	pp	VI	
63c		axe	Kenchester	SO 440428	pp	I	
64c		misc artefact, fr	Staunton on Wye, Oaker's Hill	SO 346460	pp	VIII	*
65c		axe, rewkd	Walford, Ross on Wye	SO 5820	Hereford, Walkens co 11	VI	
66c		axe, butt	Hereford, 129 Edgar St	SO 509408	Hereford	metamorphic rock ?	
67c		axe	Cannon Promie, Roman fort	SP 641433	pp	welded acid tuff	

Herefordshire flint axes

No.	ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1cf		axe	Colwall	SO 7542	Hereford 1306	flint	
2cf		axe, fr	Dorstone, Cefn Hill	SO 3242	pp	black chert (Carboniferous ?)	
3cf		misc, pick, Thames	Woolhope, Rectory	SO 611357	pp	flint	
4cf		axe, flaked	Sutton Walls	SO 525465	Hereford 6401	flint	
5cf		axe, fr (leaf point)	Woolhope, Caplow Camp	SO 592329	pp	flint	
6cf		adze	Hereford, Hinderton	SO 5038	Hereford 6603	flint	
7cf		axe, fr	Dorstone Hill	SO 325422	pp	flint	
8cf		axe, fr	Bromyard, Keep Hill	SO 637543	pp	flint	
9cf		axe, fr, burnt	Dinedor Hill	SO 528363	pp	flint	
10cf		axe fr, burnt	Dinedor Hill	SO 528363	pp	flint	
11cf		axe	Staton Lacy, Shropshire	SO 505785	Ludlow 38/78	flint	

Herefordshire perforated implements

No.	Ser.	Implement	Locality	N.G.R.	Accession
1ah		a-h, pt	Kington	SO 3056	Hereford 3409
2ah		a-h, IIb	Pembridge	SO 3958	Hereford 2253
3ah		b-a, V (S)	Mathon	SO 738448	Hereford
4ah		s-h adze	Michaelchurch Escley	SO 3134	Hereford
5ah		pebble mace	Lingen/Hereford		pp
6ah		a-h	Preston on Wye	SO 3842	Hereford DB 371
8ah		mace	Cusop, Hay on Wye	SO 2341	pp
9ah		axe, pt perf	Vowchurch	SO 330347	Hereford
10ah		mace	?Brampton Bryan	?S03772	Hereford
11ah		mace	Dulas	SO 363305	pp
12ah		pebble mace, pt	Walford Leton and Newton	SO 382710	pp
13ah		disc, perf	Grafton	SO 577612	pp

Shropshire axes

No.	ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1c		axe	Petton	SJ 435265	Shrewsbury S15/1930	VI	
2c		axe	Myddle	SJ 489220	Shrewsbury S14/1902	VI	
3c		axe	Shrewsbury, Greenfields	SJ 487137	Shrewsbury S17/1946	I	
4c		axe	Buildwas	SJ 646045	Shrewsbury S10/1936	I	
5c		axe	Cound	SJ 5505	Shrewsbury S1/TRH	amphibolite	
6c		axe	Harley	SO 6199	Shrewsbury S4/TRH	XX	
7c		hone, axe-shaped	?Madeley	SJ 6904?	Shrewsbury S7/TRH	fine acid tuff	
8c		axe	Harley	SJ 5901	Shrewsbury S3/TRH	epidotised porphyritic andesite	
9c		axe, fr	Cound	SJ 5505	Shrewsbury S2/TRH	VI	
10c		axe	Harley	SJ 5901	Shrewsbury S5/TRH	IX	
11		axe	Kenley	SO 553992	Shrewsbury S6/TRH	epidotised andesitic ash	*
12c		axe	Stretton Westwood	SO 600989	Shrewsbury S8/TRH	VII	
13c		adze	Brompton with Rhiston	SO 250934	Shrewsbury S9/1927	VI	
14c		axe	Cound, Venus Bank	SJ 552059	Shrewsbury S11/1885	VII	
15c		axe	Rushbury	SO 5293	Shrewsbury S16/1881	VII	
16c		axe	Lydham	SO 352904	Shrewsbury S12/1928	VI	
17c		axe	Munslow	SO 538890	Shrewsbury S13/1911	epidotised andesitic ash	*
18c		axe	Shropshire		Shrewsbury S18/1898	fine acid ash	
19c		axe	Netley Stapleton	SJ 4601	es Shrewsbury	unidentified (ns)	
20c		axe	All Stretton	SO 433965	Nat Mus Wales 47.296	VII	
21c		axe	Corvedale	SO 5287?	BM Sturge 1042	IX	
22c		axe	Baschurch	SJ 4320	Shrewsbury Tech Coll	VI	
23c		axe	Burwarton	SO 615853	pp	ophitic gabbro	
25c		axe	Clunton	SO 334814	Clunbury Sch	andesitic ash	*
26c		scraper	Kempton	SO 3562	Clunbury Sch	quartzite (ns)	
27c		axe	Leighton, Garmston	SJ 607061	pp	VI	*
28c		axe	Oswestry (1836)		lost	unknown (lost)	
29c		axe	Oswestry	SJ 315251	Oswestry	VI ? (ns)	
30c		axe, pt	Oswestry, Treflach	SJ 2625	pp	XII	
31c		axe	Llynchys	SJ 268242	pp	XXI	
32c		axe	Shrewsbury, Distherington	SJ 5014	lost	unknown (lost)	
33c		axe	Netley Stapleton	SJ 4601	pp	VII	
34c		axe	Netley Stapleton	SJ 4601	pp	VII	
35c		axe	Netley Stapleton	SJ 4601	lost	unknown (lost)	*
36c		axe	Bucknall, Clun	SO 3578	pp	dolerite (ns)	
37c		axe, pestle shaped	Attingham Park	SJ 549102	Shrewsbury	XV	
38c		pestle ?	Brockton Worthen	SJ 3104	Shrewsbury	ashy grit (drift pebble)	*
39c		axe	Alverley	SO 756826	Shrewsbury	VI	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
40c		axe, rewkd	Whittington	SJ 351320	St Martins Sch. Whit tington	VI	
41c		axe, rewkd	Brown Clee top	SO 5966	PP	sericitised rhyolitic ash	
42c			Bucknell, Vicarage Fm	SO 3578	unknown	ignimbrite	*
43c		axe	Rodington, Sugdon	SJ 603150	Shrewsbury	VII	
44c		pestle	Ford	SJ 425140	Shrewsbury	greywacke	
45c		axe	Chirbury	SJ 274013	Shrewsbury	VI	
46c		axe	Hawkstone	SJ 5730	Shrewsbury	VI	
47c		axe	Kinlet	SO 707795	Ludlow 8/19/4/66	I	
48c		axe, pt	Bromfield	SO 489764	Ludlow	VII	
49c		axe	Weston under Lizard	SJ 801094	PP	unidentified (drift pebble ?)	*
50c		axe	Tugford, Baucott	SO 540874	PP	VII	
51c		axe	Shipton	SO 549908	Ludlow	VI	
52c		axe	Diddlesbury	SO 497849	Ludlow	I	
53c		axe	All Stretton, Cardingmill	SO 4494	Ludlow	diorite	
54c		axe	Wroxeter, Wheathill Pm	SJ 587103	PP	VII	
55c		axe	Shifnal	SJ 748075	Shrewsbury	VI	
56c		axe	Oswestry	SJ 313251	PP	VII	
57c		wedge	Old Oswestry hill fort	SJ 205311	PP	tourmalinised grit	
58c		axe	Old Oswestry hill fort	SJ 295311	PP	fine dacitic tuff	
59c		axe, rewkd	in Lee Brook	SO 718759	PP	VII	
60c		axe	Bucknell, Mynd Lane	SO 350748	John Beddowa Sch. Pr esteign	amphibolite	
61c		axe, pt	Wall	SO 497932	Ludlow 51/78	olivine gabbro	
62c		axe	Baschurch	SJ 439232	PP	quartz feldspar ash	
63c		axe	Shrewsbury, Harlescott Rd	SJ 4913	Shrewsbury	VI	
64c		axe	Abdon	FO 581884	Ludlow 140/81/1	VII	
65c		axe, pt. rewkd	Abdon	FO 581884	Ludlow 140/81/2	fine grained rhyolitic ash	
66c		axe	Stoke on Tern	SJ 632272	Shropshire 55/82	VI	
67c		axe, butt	Wall, Gutter Farm	SO 493931	Wenlock	fine grained rhyolitic tuff	
68c		axe, pt	Easthope	SO 567950	Wenlock	sheared epidotised porphyrite ?	
69c		axe	Wall, Gutter Fm	SO 494931	Wenlock	I ? (gabbro with pelitic xenol- itha)	

Shropshire flint axes

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1cf		omitted	-	-	-	-	
2cf		flake	Bucknell	SO 3574	Clunbury Sch	flint	
3cf		flake, rewkd	Clun	SO 3176	Clunbury Sch	flint	
4cf		axe	Clun	SO 326807	?PP	flint	
5cf		axe, flakes (2)	Clun	SO 3081	Clunbury Sch	flint	
6cf		axe	Clunbury	SO 353819	Clunbury Sch	flint	
7cf		axe, fr (core)	Clunbury	SO 353819	Clunbury Sch	flint	
8cf		axe	Clunbury	SO 336787	Clun Town Hell	flint	
9cf		adze, waisted	Selattyn	SJ 242322	PP	cherty flint	
10cf		flake	Lydbury North	SO 352860	Clunbury Sch	flint	
11cf		omitted	-	-	-	-	
12cf		misc. core or cleav- er	Pimhill	SJ 473182	Shrewsbury	flint (Irish ?)	
13cf		axe, pt polished	Stowe	SO 308735	PP	flint	
14cf		axe, flaked	Atcham	SJ 540092	Shrewsbury Op 5622	flint	
15cf		axe	Dorrington	SJ 4702?	Shrewsbury	flint	
16cf		axe	Dawley, Horsehay	SJ 813067	PP	flint	
17cf		axe	Much Wenlock	SO 598954	PP	flint	

Shropshire perforated implements

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1ah	271	a-h, Ib	Shrewsbury	SJ 491125	Birmingham	XII	
2ah		a-h adze	Quatt	SO 735886	Bridgnorth	greywacke	
3ah		b-a, III b	Bromfield	SO 481770	Ludlow 174	XII	
4ah		a-h, Ib	Bitterley	SO 571774	Ludlow 173	XII	
5ah		b-a, III a	Cleobury Mortimer. Catherton Cl- ee	SO 614775	Shrewsbury SHRO 1	quartzite (no)	
6ah		b-a, III b	Titteratone Clee	SO 5977?	Shrewsbury SHRO 2	micaceous quartzite	
7ah		b-a, II	Morfe	SO 764921	Shrewsbury SHRO 23	XII	
8ah		a-h	Prees	SJ 5533	Shrewsbury SHRO 4	greywacke	
9ah		b-a, II	Moreton Corbett	SJ 5425	Shrewsbury SHRO 5	XII	
10ah		pebble mace	Wroxeter	SJ 5608	Shrewsbury SHRO 6	ashy quartzite pebble	
11ah		hammer, grooved	All Stretton	SO 455962	Shrewsbury SHRO 7	arkose grit	
12ah		hammer, cylindrical	All Stretton	SO 455962	Shrewsbury SHRO 8	arkose grit	*
14ah		pebble mace	Worthen	SJ 384047	Shrewsbury SHRO 22	feldspathic l sandstone	
15ah		b-a, I	?Much Wenlock	SO 6200?	Shrewsbury SHRO 21	XII	
16ah		b-a, II	Frodesley	SJ 516011	Shrewsbury SHRO 19	XII	
17ah		a-h, IIb	Condover	SJ 490032	Shrewsbury SHRO 18	XII	
18ah		a-h, IIa	Stapleton	SJ 4601	Shrewsbury SHRO 17	XII	
19ah		a-h	Ratlinghope	SO 4096	Shrewsbury SHRO 16	serpentinised olivine dolerite	
20ah		a-h, IIa	Church Pulverbatch	SJ 426037	Shrewsbury SHRO 15	XII	
21ah		a-h, IIb	Church Stretton, Minton	SO 4390	Shrewsbury SHRO 14	XII	
22ah		a-h, IIb	Acton Scott	SO 4589	Shrewsbury SHRO 10	XII	
23ah		disc. perf	Adderley	SJ 6640	Shrewsbury SHRO 24	sheared rhyolite (ns)	
24ah		disc. perf	Osweatry. Park Hall	SL 3031	Shrewsbury SHRO 25	coarse ashy grit (ns)	
25ah		b-a, III	Montford Bridge, R Severn	SJ 432152	CUM 24.D.97	XII	
26ah		a-h	Bicton. Onslow Hill	SJ 4313	lost	dolerite (ns)	
27ah		a-h	Chirbury	SO 3299	AshM Pr 42	ophitic dolerite	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
28ah		p-h	Church Stretton	SO 457935	lost	unknown (lost)	
29ah		hammer ?	Doddington	?S06176	lost	unknown (lost)	
30ah		a-h	Farlow	SO 6480	lost	basalt (ns)	
31ah		p-h	Hopton Castle	SO 3678	Clun	XV ? (fine)	
32ah		a-h	Hopton Castle	SO 3678?	lost	unknown (lost)	
33ah		a-h	Leebotwood	SJ 488007	pp	andesitic tuff	
34ah		a-h	Minsterley		lost	unknown (lost)	
35ah		a-h, IIb	Bishop's Castle, Hardwick	SO 3690	AshM, Evans Coll	XII	
36ah		a-h	Aston Hall	SJ 3227?	pp	unidentified	
37ah		a-h	Aston Hall	SJ 3227?	pp	unidentified (ns)	
38ah		a-h, IIb	Wentnor, Prolley Moor	SO 3993	pp	XII	
39ah		b-a, pt	Wroxeter, Brompton Ford	SJ 548084	Bantock House Mus, W	XV	
40ah		a-h, Ia	Condover, Sharpstones Hill	SJ 495095	Shrewsbury	XII	
41ah		a-h, Ib	Bettys-y-Crwyn	SO 1785	Clun	XII	
42ah		pebble mace, pt	Bettys-y-Crwyn	SO 1984	Clun	coarse grit	
43ah		cupped pebble	Brompton with Rhiston	SO 2794	pp	unidentified (ns)	
44ah		pestle or hammer, pt	Clunbury	SO 3780	Clunbury Sch	unidentified (ns)	
45ah		axe, fr	clun, Bicton	SO 2882		XX	*
46ah		mace or s-h adze	Stanton on Hine Heath	SJ 6124	Shrewsbury	metamorphosed shale	
47ah		disc, perf	Stow, Bryn Farm	SO 272748	Clun	unidentified (ns)	
49ah		mace or s-h adze	Whitchurch, Sandfield	SJ 5441	Liverpool	granodiorite	
50ah		b-a, II, pt	Sambrook	SJ 7124	Adams Sch, Newport	basaltic andesite (drift pebble ?)	
51ah		mace, unfin	Worthen, Hemford	SJ 316004	pp	coarse greywacke	*
52ah		a-h	prob Hockleton	SJ 274000	pp	XII	
53ah		mace	Sambrook/Fauls Farm	SJ 7124	pp	greywacke	*
54ah		hammer, pt perf	More	SJ 332926	pp	XII	
55ah		mace, ovoid, pt	Clun, Purlogue	SO 2876	pp	I	
56ah		p-h	Stanton on Hine Heath	SJ 6124	Shrewsbury	XV	
57ah		disc, perf	Whitcott Keysett	SO 275833	pp	grey sandstone	
58ah		mace or hammer	Colebatch	SO 3187	Clun	greywacke	
59ah		a-h	West Felton	SJ 3425	Shrewsbury	ophitic dolerite	
60ah		pebble mace	Garmston Leighton	SJ 607061	Shrewsbury	micaceous siltstone	*
60ah		a-h	Longden Hall	SJ 4205	pp	andesitic ash	
61ah		a-h, Ia	Chirbury, Wotherton	SO 281999	Shrewsbury	XIII	
62ah		b-a II	St Alkmund, Sherwisbury	SJ 520155	Shrewsbury	XV	
63ah		a-b, II	Lydham	SO 342896	Shrewsbury	XV	
64ah		a-b, I. pt perf	More	SO 346930	Shrewsbury	XII	
65ah		p-h	Shifnal	SJ 7404	pp	XV	
66ah		disc, perf	Childs Ercall	SJ 6625?	Shrewsbury	sheared porphyritic andesite	
67ah		disc, perf	Market Drayton	SJ 657337	Shrewsbury	coarse ashy grit (drift pebble ?)	
68ah		pebble mace, pt	Lydham, IA hill fort (The Rover-ies)	SO 328925	Birmingham	quartzite	
69ah		b-a	Great Wollaston	SO 295108	Shrewsbury	XII	
70ah		a-h, Ib	Calverhall	SJ 6037	Shrewsbury	XV	
71ah		mace	Ritton Castle	SO 343978	Shrewsbury	coarse greywacke	*
72ah		a-h, IIb	?Whitchurch, Brown Moss	SJ 5441?	Shrewsbury	XV	
73ah		pebble mace	Albrighton	SJ 798039	Shrewsbury	ferruginous sandstone	
74ah		mace	Sambrook	SJ 715245	Shrewsbury	grit	*
75ah		a-h	More	SO 328931	pp	XII	
76ah		disc, perf	Linley	SO 3492	Clun	micaceous siltstone	
77ah		a-h	Market Drayton, Linstock	SJ 688277	pp	XV	
78ah		hammer, pt	Brompton, Cross Houses	SJ 555071	Shrewsbury	dolerite	
79ah		a-h	shelve	SO 322975	pp	XII ? (ns)	
80ah		a-h	Whitchurch, Dearnford hall	SJ 5437	pp	XV	
81ah		mace or disc, perf	Whitchurch, Dearnford hall	SJ 5437	pp	XV	
82ah		a-h, pt	Wall, Gutter Fm	SO 494931	Wenlock	coarse feldspathic micaceous gritstone	

Staffordshire axes

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1c		axe	Beresford Dale	SK 1259?	Stoke 38.31	VI	
2c		axe	Shenstone, Whateley Fields	SK 110055	Birmingham	epidotised diorite	
3c		axe, rewkd	Wombourne	SO 877923	Wolverhampton	VI	
4c		axe	Waterhouses, Cauldon	SK 0749	Stoke 1221	andesitic crystal tuff	
5c		axe, fr	Blore with Swinscoe, Common End Lane barrow	SK 129491	Stoke 47.1971	epidotised coarse andesitic crystal tuff	
6c		axe, Cumbrian	Barlaston	SJ 9034	Stoke 37.31	VI	
7c		axe	Eccleshall	SK 0043?	pp	altered quartz gabbro	
8c		axe	Burton on Trent	SK 2422	Brighton	andesitic tuff	
9c		axe, pt	Stoke, Normacot	SJ 923424	Stoke 64.53	VIII	
10c		axe	King's Bromley	SK 099165	Lichfield	VI	
11c		axe, pt	Weston	SJ 957258	pp	VII	
12c		axe	Alrewas	SK 175138	Manchester 0.7243	VI	
13c		axe	Brereton	SK 027163	Birmingham	VIII	
14c		axe	Shenstone	SK 092042	Birmingham	XX	
15c		axe	Ogreave	SK 143156	Birmingham	VI	
16c		axe	Birmingham, Handsworth	SP 041893	Birmingham	I	
17c		axe	Fradswell	SK 007317	Stoke	VII	
18c		misc, stone, facett-ed	Dunston	SJ 9217	Stoke K24.1981	micaceous ferruginous sandstone (drift pebble)	
19c		axe	Clifton Campville	SK 2510	Birmingham 38.49	VI	
20c		axe	Wall	SK 111065	Birmingham	VII	
21c		axe	Barlaston	SJ 8938	Stoke	XV	
22c		axe	Featherstone	SJ 934050	pp	VI	
23c		axe	Cresswell	SJ 898250	Stanford L4	VI	
24c		axe	Burton on Trent	SK 2422	Liverpool 44.27.287	IX	
25c		axe	Fenton Stoke	SJ 894444	Brighton	medium coarse grit	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
26c		axe	Calton. Waterhouses	SK 095499	pp	VII	
27c		axe	Wetton, Thor's Cave	SK 098550	Sheffield J93.41	epidiorite	
28c		axe	'Staffordshire'	-	Stoke 25.51	XVI	
29c		flake	Manifold Valley	SK 1057?	Peek Archaeol Soc	VI	
30c		flake	Manifold Valley	SK 1057?	Peek Archaeol Soc	VII	
31c		adze	Lichfield	SK 113098	Birmingham	VI	
32c		axe	Maer Hall Estate	SJ 785385	pp	VII	
33c		axe, rewdk	Stoke on Trent, Buckhall	SJ 909476	Stoke 1.1968	VI	
34c		axe	Loner Gornal. Sedgley	SO 902918	Birmingham	XV?	

Staffordshire flint axes

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1cf		axe	Wednesfield	SJ 9500	Wolverhampton	flint	
2cf		axe	?High Offley	SJ 7826?	Wm Salt Lib, Staffor d	flint	
3cf		axe	nr Lichfield	(SK1109)	Lichfield	flint	
4cf		axe	Shenstone	SK 1104	pp	flint	
5cf		axe	Drayton Bassett	SK 1900	pp	flint	
6cf		axe	Lichfield	SK 1109	pp	flint	
7cf		axe	Needwood Forest, ?in barrow	SK 1825	BM 843.81	flint	
8cf		axe, rewdk	Alrewas	SK 1715	Birmingham	flint	
9cf		axe	Wall, ?Cannock Chase	SK 1006	Wall	flint	
10cf		axe	Cauldon	SK 0748	Stoke 36.31	flint	

Staffordshire perforated implements

No.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1ah	a-h	Stone	SJ 9034	BM H86-19	epidotised porphyrite	
2ah	a-h, Ia	Hopton	SJ 9426	Lichfield	XV	
3ah	disc, perf	Chebsey	SJ 873314	Stoke 34.33	soft sandstone	*
4ah	adze, pt	Wolverhampton Grammar Sch	SO 900986	Wolverhampton	XV	
5ah	mace, cushion	Barr Beacon	SP 061974	AshM	XVIII ?	
6ah	pebble mace	Chartley	SK 0028	pp	quartzite (ns)	
7ah	p-h	Admaston. St Stephens Hill	SK 062237	pp	xv	
8ah	hammer, pt perf	'Stone'	SJ 9034?	BM	hornstone ? (ns)	
9ah	a-h	Upper Hulme	SK 016613	Stoke 104.1963	sandstone	
10ah	b-a	Dove Valley, S of Uttoxeter	SK 1132?	Stoke 41.31	XII	
11ah	a-h	Eccleshall, Fair Oak, Broughton	SJ 7632	Stoke	XII	
12ah	a-h	Stowe, Manor House, Chartley	SK 0028	Stoke 42.50	xv	
13ah	mace. pt	Ipstones	SK 0249	Stoke 33.31	quartzite	
14ah	a-h	Chebsey. Cold Norton Fm	SJ 880322	Stoke	coarse arkose	
15ah	a-h, Ib	Stowe, Chartley Manor	SK 0028	Stoke 42.50	xv	
16ah	a-h	Fradley	SK 1513	Birmingham 18.54	dlorite	
17ah	a-h, pt	Swynnerton	SJ 8533	Stoke 507.41	XII	
18ah	p-h	Bloxwich	SJ 996041	Birmingham	XV?	
19ah	pebble mace	Stafford, Rowley Bank	SJ 918216	Wancheater 0.8171	quartzite (ns)	
20ah	pebble, pt perf	Chebsey, Cold Norton	SJ 878323	pp	coarse micaceous grit	
21ah	pebble mace	Aldridge, St Margaret's Fm	SP 056953	Birmingham	quartzite (as)	
22ah	diac. perf	Wednesfield. Ashmore Lodge	SJ 960018	pp	sandstone (drift pebble) (ns)	*
23ah	disc, perf	Wednesfield, Ashore Lodge	SJ 957026	pp	quartzitic grit (drift pebble) (ns)	
24ah	disc. perf	Wednesfield, Ashmore Lodge	SJ 960018	pp	greywacke (drift pebble)	
25ah	a-h, Ib	Tamworth, Canberton Rd	SK 205050	pp	XIV	
26ah	mace, cushion	Chebaey, Cold Norton	SJ 874322	Stafford	sericitic grit	
27ah	a-h	Eccleshall. Baden Hall	SJ 842314	pp	XII	
28ah	p-h	Eccleshall	SJ 842314	pp	XV (drift pebble)	
29ah	pebble mace	Birmingham, Perry Common	SP 094930	Birmingham	quartzite (ns)	
30ah	misc. atone. perf	Penkridge, Bull Br	SJ 923145	Stafford	coarse crystal tuff (drift peb- ble)	
31ah	mace or p-h	Hedneaford. Rawnley Rd	SK 013126	Stafford	quartzite	
32ah	a-h	Wolverhampton	SO 9198?	Birmingham	xv	
33ah	hammer, cushion. pt	Swynnerton, Hanchurch Hill	SJ 8340	Stoke 42.31	quartzite ? (ns)	
34ah	mace or hammer. pt	Caverswall	SJ 9542	Stoke 34.31	sheared basalt	
35ah	pebble mace	Tittesworth	SK 0056	Stoke 668.45	quartzite	
36ah	a-h adze	Cheddleton	SJ 9752	Stoke 66.84	xv	
37ah	misc. atone, perf	Cheadle	SK 0143	Stoke 606.45	quartzite	
38ah	mace or hammer	Norton le Moore	SJ 8951	Btoke 1214.86	besaltic crystal tuff	
39ah	b-a, II, pt	Trentham. Northwood Barrow	SJ 8540	Stoke	xv	
40ah	b-a, II b	Betley Hall	SJ 755490	Stoke	XX	
41ah	a-h	Biddulph	SJ 8857	Stoke	xv	
42ah	a-h	Cauldon, Waterhouses	SK 0850	Stoke	xv	
43ah	a-h	Leek	SJ 9856	Stoke 237.36	xv	
44ah	a-h	Talke. Bunkers Hill	SJ 8253	Stoke	XII	
45ah	a-h	Tittensor	SJ 8736	stoke	dolerite	
46ah	a-h	Swinscoe. Common End Fm	SK 127486	Stoke	XII	
47ah	a-h	Porebrook, Blythe Marsh	SJ 983412	Stoke	XII	
48ah	b-a, II c	Hanley, Charles St	SJ 884475	Stoke 903.49	XII	
49ah	b-a, I b	Leigh	SK 0235	Stoke 66.53	greywacke	
50ah	b-a, I b	Whitmore, Shutlane lead	SJ 823421	Stoke 49.53	fine grained greywacke	
51ah	mace	Alton. Ribden Fm	SK 0742	Stoke	fine grained micaceous sandato- no XV	
52ah	a-h	Caldon Lowe	SK 080487	Bolton		
53ah	a-h	Bagnall, Moor Hall Fm	SJ 942505	Stoke 101.64	herd micaceous gritstone	
54ah	maul. waisted	Outton ton	SJ 9135	Stoke K252.1981	diorite	
55ah	mace. pt	Swynnerton, Common Lane	SJ 8535	Stoke 76.1972	quartzite (drift pebble)	
56ah	b-a, pt	Cannock workings	SJ 9908	pp	XIV	

Warwickshire axes

No.	ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1c		axe	Baginton	SP 342748	Conventry	VII	
2c		adze	Harbury	SP 3560	pp	rhyolitic ash	
3c	176	axe	Curdworth	SP 1692	Birmingham	VI	*
4c		axe	Lillington	SP 3267	Warwick A. 11	VI	
5c		axe, pt	Lillington	SP 3267	Warwick	IX	
6c		axe	Quinton, Meon Hill	SP 1745	Birmingham	quartz dolerite	
7c		axe	Larkstoke, Admington	SP 1843	Stratford New P1	I	
8c		axe, Cumbrian	Quinton	SP 178463	Stratford New P1	sheared grit	
9c		axe, rewd	Conventry, Gibbert Hill	SP 312739	Conventry	VII	
11c		axe, rewd	Conventry, canley	SP 298770	Conventry	VII	
12c		axe	Stratford, Welcombe (1794)	SP 2056	lost	unknown (lost)	
13c		axe	four Daks	SP 1099	Birmingham	XX	
14c		axe	high Cross	SP 463881	pp	see note	*
15c		axe	Avon Valley, nr stratford	SP 2055?	Bexhill	spherulitic rhyolite	
16c		axe	Lapworth, Kingswood Fm	SP 190720	pp	I	
17c		axe	Corley Moor	SP 285850	Warwick	VI	
18c		axe	Birmingham, Deritend	SP 079863	Birmingham 2954.64	VI	
19c		axe	Snitterfield	SP 2159	Birmingham	IX	
20c		axe	Withybrook	SP 451837	Warwick 137.1959	I	
21c		axe	Kenilworth, Banner Hill Fm	SP 263702	pp	VI	
22c		hone	Henley in Arden	SP 1566	Birmingham	greywacke	
23c		axe	Mancetter	SP 321968	pp	VI	
24c		axe	Stretton on Fosse	SP 219393	pp	Actinolite schist	
25c		axe	Conventry	SP 282797	Conventry	I	
26c		axe, fr	Kings Newnham	SP 4577	Birmingham	VI	
27c		misc, slab, waisted	Ryton on Dunsmore	SP 373727	pp	fine grained greywacke (drift pebble)	
28c		axe	Conventry	SP 324761	pp	XX	
29c		axe	Loxley, Oldborough Fm	SP 243537	pp	VI	
30c		axe, pt	Fillongley, Wood End	SP 289879	pp	VI	
31c		axe, pt	Salford Priors	SP 081508	Birmingham	I	
32c		axe	Salford Priors	SP 081509	pp	chloritised andesitic ash	
33c		hone or hammer	Nuneaton. Red Deeps	SP 359898	pp	XV (drift pebble ?)	
34c		axe	Wolvey. Abbey Fm	SP 433899	pp	I	
35c		axe, r-o	over Whitcare	SP 2590	pp	chloritised andesitic ash (dri - ft pebbles)	
36c		axe, pt	Wolvey. Abbey Fm	SP 445899	pp	VI	
38c		axe	Meer End	SP 244741	Conventry	VII	
39c		axe	Tysoe	SP 341469	Conventry	VI	
40c		axe, pt	Wasperton	SP 261581	Warwick	I	
41c		axe	Knowle, chadwick End,	SP 196745	pp	VI (ns)	
42c	1075	axe	Bournville	SP 0480	lost	VII	*

Warwickshire flint axes

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1cf		axe	Oversley Wood	SP 1156	Stratford	flint	
2cf		axe, pt	Conventry. Pinley	SP 3677	lost ?	flint	
3cf		axe	Oldbury	SP 313947	lost	flint	*
4cf		axe	Barton on the Heath	SP 2532	Warwick	flint	
5cf		axe	(nr stratford on Avon)	SP 2055?	Bexhill	flint	
6cf		axe	Beacusaile	SP 2470	(Warwick)	flint	
7cf		axe	Stratford on Avon	SP 2055	Liverpool 6414M	flint	
8cf		axe	Chester on & Kingston	SP 3558	Pitt Rivers	flint	
9cf		axe	Warwick, R Avon	SP 2864	Rutland Co Mus	flint	
10cf		axe	Warwick Priory	SP 2865	Leamington Spa	flint	
11cf		misc, pick	newton & Biggin	SP 533786	Warwick	flint	
12cf		axe	Kineston	SP 3351	Birmingham 1329/67	flint	

Warwickshire perforated implements

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	note
1ah		adze	Warwick Priory	SP 281650	Warwick A 1	XV	
2ah		pebble mace	Tanworth in Lily Hill	SP 126697	Birmingham 7.23	quartzite	
3ah		b-a, JV, pt	Conventry, Green Lane	SP 324760	Conventry	XIV	
4ah		a-h IIB ?	Walsgrave	SP 380810	AshM	XIV	
5ah	174	a-h IIB	Conventry. Foleshill	SP 3582	Conventry	XIV	*
6ah		b-a, V e	Hartshill Common	SP 3293	lost	Unknown (lost)	
7ah		pebble mace	High Cross, leics	SP 473887	pp	quartzite	*
8ah		pebble mace, pt perf	Ryton on Dunsmore	SP 3874	AshM 1927.3776	quartzite	
9ah		a-h IB, unperf	Coventry Victoria Rd	SP 330787	Conventry	XVIII	
10ah		b-a, II a	Lower Hillmorton	SP 5373	Warwick	XIV	
11ah		b-a, I	Hillmorton	SP 5374	Rotherham	XVII	
12ah		disc, perf	Kenilworth, Crackley	SP 291741	Warwick 185/1954	XV	
13ah		pebble mace, pt	Stoneleigh park	SP 340723	pp	quartzite	
14ah		hammer, cushion	Wapenbury, iron Age camp	SP 37693	Conventry 1953.352	muscovite tremolite schist	*
15ah		a-h	Coventry	SP 315775	T e x t	XIV	
16ah		b-a, II, pt	Coventry, Wyken	SP 371792	Conventry 62.197	XII	
17ah		b-a, IV	?Stoneleigh Abbey	SP 3271?	Conventry	XIV	
18ah		a-h, IIB ?	Budbrooke	SP 254655	Warwick	XII	
19ah		mace or p-h	Wellesbourne Hastings	SP 2855	Warwick	quartzite	
20ah		a-h	Abbots Salford	SP 0650	Warwick	amygdaloidal olivine basalt	
21ah		a-h grooved	Whithash	SP 3263	Warwick	calcareous grit	
22ah		b-a, II, pt perf	Coventry, Whoberley Hall	SP 305791	Conventry	XIV	
23ah		a-h	Longford	SP 34938	pp	coarse greywacke	
24ah		b-a, IV, pt perf,	Mancetter, Roman site	SP 326968	Birmingham	olivine dolerite	

Worcestershire axes

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1c		axe	Hagley	SO 903805	Worcester	I	
2c		axe, pt	Hilland Cakemore	SO 983851	Birmingham 97.28	xx	
3c		axe, r-o	Tardabigge	SO 9969	Birmingham 18.17	felsitic ash	
4c		axe	Longdon	SO 8235	BM 1920. 11-5.1	I	
5c		axe	Wickhamford	SP 086422	Worcester	altered andesite	
6c		axe	Worcester Sewage Wks	SO 845532	Worcester	fine grained tuff	
7c		axe	Defford	SO 9143?	lost	unknown (lost)	
8c		axe	Sedgebarrow	SP 6238	lost	unidentified (ns)	
9c		axe	Sedgebarrow	SP 0238	lost	unknown (lost)	
10c		axe	Offenham	SP 0546	lost	unknown (lost)	
11c		axe	Pedmore	SO 895823	Birmingham	VI	
12c		axe	Rowley Regis	SO 966894	Birmingham	VII	
13c		axe	Oldbury, Newbury Lane	SO 977891	Birmingham 198.55	amygdaloidal andesite	
14c		axe, rewk d	Chadbury	SP 018475	Worcester	VI	
15c		axe	Ombersley	SO 8463	Worcester	VII	
16c		axe, pt	Leigh	SO 774513	Worcester	VIII	
17c		axe	Redditch	SP 034683	pp	VI	
18c		axe	Birmingham, Bournville	SP 052814	Newcastle on Tyne	VII	
10c		axe	Cleeve Prior	SP 0848	Almonry, Evesham	uralitised dolerite	
20c	319	axe	Overbury, Bredon Hill	SO 9539	pp	X	*
21c		axe	Birmingham, Northfield	SP 005785	Birmingham	VI	
22c		axe	Wyre Piddle	SO 9647	Birmingham 990.69	VII	
23c		axe	Lutley	SO 043825	Birmingham 363.69	I	
24c		axe	Bewdley, Dry Mill Lane	SO 767763	Hartlebury	VII	
25c		axe, token ?	Bredon Hill Camp	SO 958402	pp	quartz biotite schist	
26c		axe	Wichenford	SO 772623	Hartlebury	xx	
27c	321	hone or hammer	Overbury	SO 9537	pp	micaceous sandstone	*
28c	1391	axe	Beckford Gravel Pit	SO 095358	Birmingham	jadeite (ns)	*
29c		axe, fr	Eckington	SO 947409	pp	rhyolitic tuff (drift pebble?)	
30c		axe, rewk d	Inkberrow	SP 010574	pp	VII	
31c		axe, pt	Moundsley Hall, Druid's Heath	SP 063785	pp	I	
32c		axe	Pershore, old river channel	SO 947458	pp	siltstone	
33c		axe, pt	Little Comberton	SO 966429	pp	fine grained sandstone (ns)	
34c		axe, rewk d, pt	Fladbury, Lower Moor	SO 905456	pp	VII	
35c		axe	Fladbury	SO 984467	pp	VII	
36c		axe	Badsey	SP 071432	Almonry, Evesham	pitchstone or tachylite	
37c		axe	Birlingham, ?R Avon	SO 9543	pp	flow banded basalt	
38c		axe	Drakes Broughton	SO 9548	pp	VII	
39c		pestle	Bretforton	SP 097444	pp	coarse crystal tuff	

Worcester&ire flint axes

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1cf		axe	Romsley	SO 961782	Birmingham	cherty flint	
2cf		axe	Salford Priors	SP 0551	Worcester	cherty flint	
3cf		axe, rewk d	Worcester	SO 8485	Worcester	cherty flint	
4cf		axe	unknown	-	Worcester	flint	
5cf		axe	Kidderminster	SO 8274	Kidderminster	flint	
6cf		axe	Kings Norton	SP 043800	Birmingham	flint	
7cf		axe	Pershore, Holy Cross	SO 931474	Worcester	flint	
8cf		axe, pt	Beckford	SO 978357	pp	flint	
9cf		axe		SO 984362	pp	flint	

Worcester&ire perforated implements

No.	Ser.	Implement	Locality	N. G. R.	Accession	Petrology	Note
1ah		pebble mace	Tutnall	SO 990700	Birmingham 16.17	quartzite (ns)	
3ah		a-h	'Teme valley'	-	Birmingham 25.31	uralitised dolerite	
5ah		a-h	Grimley Ham	SO 8360?	Worcester	plaster cast	
6ah		a-h	Abberley	SO 7567	Worcester	XII	*
7ah		b-a	nr Grimley	-	lost	unknown (lost)	
8ah		b-a, IV c	R Severn, Bevere Is	SO 837595	Worcester	dolerite	
9ah		b-a, V e	R Severn, Bewdley	SO 7975	AshM	XII	
11ah		b-a, IV d	R Severn, Ribbesford	SO 7974	Soc Antiq London	XII	
12ah		a-h	Kidderminster, Church St	SO 831769	pp	XII	
13ah		a-h, pt	Birmingham, Kings Heath	SP 062812	pp	XIV	
14ah		b-a, V d	Stoke Prior, Fockbury Hill	SO 9461	Birmingham	XII	
15ah		a-h	Kings Heath, Storchley brook	SP 060920	Birmingham	XII	
16ah	320	cupped pebble	Overbury	SO 9537	pp	olivine dolerite	*
17ah		b-a, II, pt	Bredon Hill	SO 9540?	pp	XII	
18ah	1078	misc artefact. perf, fr	Childs Wickham	SO 0738	pp	limestone (Jurassic)	*

Notes*Herefordshire axes*

No.	Note
1	The abbreviation (dp) indicates that the specimen is a Drift pebble, glacial erratic. <i>Gr...</i> is a naturally shaped object, modified or perforated for use as an implement, not the product of an axe factory
36	Not VI, but probably from Scafell
64	Petrological indentification by W J Phillips

Herefordshire perforated implements

No.	Note
9	Partly perforated from the sides
10	Possibly a glacial erratic from Scotland

Shropshire axes

	Note
11	Not VI, but probably from the Lake District
17	Not VI, but probably from the Lake District
25	Probably from the Stapely Volcanic Group, Shropshire
27	Found with SH 60/ah
35	Unrecorded apeximens from hoard of four axes
38	Possibly not an artefact: probably a glacial erratic
42	SH 4Z/C consist of two flakes and a core tool, all from the same findspot, and all of ignimbrite Inadvertently published as LA 38 in Roe 1979. 44 See CU 59
49	Possibly a glacial erratic from the Silurian of the Lake District or the Southern Uplands of Scotland

Shropshire perforated implements

No	Note
12	Possibly from the Pre Cambrian Wentnor Series of the Longmynd, Shropshire
45	Prom cairn overlying cist i n circle (H C Jones, Shrewsbury Chronicle, 4 Dec 1936)
51	Similar to Sh 53/ah and Sh 71/ah
53	Similar to Sh 51/ah and Sh 71/ah
60	Found with Sh 27/c
71	Similar to Sh 51/ah and Sh 53/ah
74	Possibly from the Old Red Sandstone

Staffordshire perforated implements

No.	Note
3	Possibly from the Upper Carboniferous Keele Group of the Midlands
22	Probably from the Coal Measure

Warwickshire axes

No	Note
3	Fourth Report no 176 (Warw 2)
14	Petrology not recorded information from A Saville
42	Fourth Report no 1075 (Warw 1(Sic))

Warwickshire flint axes

No.	Note
3	This is the famous specimen published in Dugdale's Antiquities of Warwickshire (1658) 778, and once in the collection of Sir Elias Ashmole the first axe to be described and figured as man's handiwork

Warwickshire perforated implements

No	Note
5	Fourth Report no 174 (Warw 1)
7	The findspot is just in Leicestershire
14	From excavation of scaled layer, associated with Iron Age pottery

Worcestershire axes

No	Note
20	Fourth Report No 319 (Worc 1)
27	Fourth Report no 321 (worc 3), possibly from the Old Red Sandstone
28	Fourth Report no 1391 (as Glos 4), Trans Bristol Gloucestershire Archaeol Soc 88 (1989) 205-6, Smith 1972, 411

Worcestershire perforated implements

No	Note
7	Double ended battle axe recorded and illustrated by J Allies. Antiquities and Folk-Lore of Worcestershire (2nd ed, 1852) 150, Pl Iv, 8-9
16	Fourth Report no 320 (Worc 2)
18	Fourth Report no 1078 (Worc 4)

Yorkshire

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		wedge	Whitby	NZ 8911	pp	greenstone	
2		hammer.	Doncaster	SE 5803	Doncaster	hornblende	epidote schist
3		axe, fr	N. Deighton	SE 3851	York	hornblende	granophyre
4		axe, fr	N. Deighton	SE 3851	York	VI	
5		axe, fr	N. Deighton	SE 3851	York	VI	
6		axe, fr	N. Deighton	SE 3851	York	VII	
7		axe	Bridlington	TA 1766	Bridlington	C.15.21	greenstone
8		axe	Bridlington	TA 1766	Bridlington	C.15.22	greenstone
9		axe	Bridlington	TA 1766	Bridlington	C.15.28	III
10		axe	Bridlington	TA 1766	Bridlington	C.15.23	I
11		axe, fr	Bridlington	TA 1766	Bridlington	C.15.26	VI
12		axe, pt	Bridlington	TA 1766	Bridlington	C.15.25	VI
13		axe	Bridlington	TA 1766	Bridlington	A.21.24	near XVIII
14		mace	Bridlington	TA 1766	Birdlington	C.15.30	dolerite
15		b-a	Bridlington	TA 1766	Bridlington	C.15.31	XVIII
16		axe, pt	Bridlington	TA 1766	Bridlington		VI
17		axe	Awkley. Doncaster	SE 650010	Doncaster		VII
18		axe	Everton Carr, Bawtry	SK 690920	Doncaster		VI
19		axe	Gilling East	SE 602742	York		VI
20		axe	'Yorkshire'	-	Birmingham		greenstone
21		b-a	'Yorkshire'	-	Birmingham		sub-ophitic olivine dolerite
22		axe, fr	Rudston	TA 0967	Scarborough	169.38	VI
23		axe	Nr Filey	TA 1180	Scarborough	185.38	quartz enstatite dolerite
24		axe	Nr Filey	TA 1180	Scarborough	186.38	greenstone (atypical)
25		axe	Cayton	TA 067821	Scarborough	758.38	greenstone
26		axe	Seamer	TA 0286	Scarborough	759.38	greenstone
27		axe	N. Dalton	SE 9452	Scarborough	760.38	greenstone
28		axe	Brompton	SE 9582	Scarborough	761.38	XVIII
29		axe, pt	Bridlington	TA 1866	Scarborough	762.38	VII
30		axe, pt	Scarborough	TA 0389	Scarborough	766.38	VII
31		axe, pt	Folkton	TA 0477	Scarborough	787.38	XVIII
32		axe	Byland with Wass	SE 5579	Scarborough	786.38	quartz syenite
33		axe	Flamborough	TA 2270	Scarborough	770.38	VI
34		axe	Nr Scarborough	TA 0489	Scarborough	771.38	VI
35		axe, pt	Weaverthorpe	SE 9670	Scarborough	773.38	tuff
36		axe, fr	Knapton	SE 8875	Scarborough	174.38	VI
37		axe, fr	Duggleby	SE 8767	Scarborough	777.38	VI
38		axe, fr	Flamborough	TA 2270	Scarborough	778.38	VI
39		axe	Palsgrave, Scarborough	TA 0388	Scarborough	779.38	VI
40		axe	Folkton. Sharp Howes	TA 0477	Scarborough	780.38	fine grained enstatite basalt
41		axe	Sherburn	SE 9576	Scarborough	781.38	VI
42		axe, pt	Willerby Wold	TA 0176	Scarborough	784.38	VI
43		axe	Willerby	TA 0176	Scarborough	785.38	VI
44		axe, pt	Weaverthorpe	SE 9670	Scarborough	790.38	VI
45		axe	Sherburn	SE 9874	Scarborough	794.38	XVIII
46		axe, pt	Flixton Wold. Folkton	TA 0377	Scarborough	580.46	VI
47		axe, pt	Nr Filey	TA 1180	Scarborough	802.46	near VI
48		axe, fr	Nr Piley	TA 1180	Scarborough	803.46	VI
49		axe, pt	Nr Filey	TA 1180	Scarborough	805.46	VI
50		axe, fr	Nr Piley	TA 1180	Scarborough	808.46	XVIII
51		axe	Nr Filey	TA 1180	Scarborough	809.46	KVIII
52		axe, pt	Flamborough	TA 2270	Scarborough	18.51	VI
53		axe, pt	Boynnton. Binsdale	TA 1268	Scarborough	19.51	epidotised acid tuff
54		axe, fr	Maidlands, Flamborough	TA 2289	Scarborough	20.61	VI
55		axe, fr	Maidlands, Flamborough	TA 2289	Scarborough	21.51	VI
56		axe, fr	Maidlands, Flamborough	TA 2289	Scarborough	22.51	VI
57		axe	Sewerby, Bridlington	TA 1988	Scarborough	23.11	XVIII
58		axe, pt	South Landing, Flamborough	TA 2389	Scarborough	24.51	XVIII
59		axe, fr	Speeton Cliff	TA 1674	Scarborough	25.81	quartz porphyry
60		axe	Welburn	SE 6884	Scarborough	1016.51	VI
61		axe, pt	Wykeham	SE 9683	Scarborough	1889.51	VI
62		axe	Binsdale	TA 1288	Scarborough	810.52	VI
63		axe, pt	Carnaby	TA 1465	Scarborough	812.52	silicified acid tuff
64		axe, pt	Carnaby	TA 1485	Scarborough	813.52	VII
65		adze	Carnaby	TA 1465	Scarborough	814.52	VI
66		axe, fr	Sawerby, Bridlington	TA 1988	Scarborough	816.52	VI
67		axe	Grindale	TA 1371	Scarborough	819.52	greenstone
68		axe, fr	B e s s i n g b y	TA 1868	Scarborough	820.52	VII
69		axe, fr	Bessingby	TA 1585	Scarborough	821.52	VI
70		axe, fr	Cowlam, Cottam	SE 9985	Scarborough	822.52	VII
71		axe, fr	Willerby	TA 0178	Scarborough	824.52	VI
72		rubber	Rudston	TA 0087	Scarborough	825.52	VI
73		axe, pt	Rudston	TA 0987	Scarborough	826.52	VI
74		axe	Rudston Grangs	TA 0868	Scarborough	827.52	VII
75		axe	?Huntow, Bridlington	TA 1889	Scarborough	828.52	VII
76		axe	North Dale, Grindale	TA 154720	Scarborough	829.52	VI
77		axe	North Dale, Grindale	TA 1571	Scarborough	830.52	VI
78		axe, pt	Hunmanby	TA 0977	Scarborough	831.52	epidotised tuff
79		axe, fr	Hunmanby	TA 0977	Scarborough	832.52	VII
80		axe	Hunmanby	TA 0977	Scarborough	833.52	VI
81		exe	Hunmanby Row	TA 0977	Scarborough	834.52	greenstone
82		axe	Forty Foot, Bridlington	TA 2088	Scarborough	836.52	VI
83		axe, pt	Buckton Barn	TA 168718	Scarborough	841.52	VI
84		axe	Buckton Barn	TA 168716	Scarborough	842.52	VI
85		axe, pt	Seamer	TA 023829	Scarborough	127.54	tuff
86		axe, fr	Seamer	TA 023835	Scarborough	46.55	greenstone
87		axe, fr	Seamer	TA 026821	Scarborough	47.55	VI
88		axe, fr	Seamer	TA 026830	Scarborough	234.55	VI
89		axe	Seamer	TA 026824	Scarborough	261.56	tuft
90		axe, fr	Seamer	TA 025828	Scarborough	294.58	sandstone
91		axe, fr	Hutton Buscel	SE 967856	Scarborough	548.58	fossiliferous limestone

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
92		axe	Wolds	-	Hull 300.42.29	VI	
93		axe, fr	Driffield Wold	TA 0261	Hull 300.42.31	greywacke	
94		axe, fr	Wolds	-	Hull 300.42.46	VI	
95		axe, fr	Wolds	-	Hull 300.42.47	XVIII	
96		axe	Wolds	-	Hull 300.42.49	I	
97		axe	Wolds	-	Hull 300.42.51	VI	
98		axe	Wolds	-	Hull 300.42.53	spotted slate	
99		axe	Wolds	-	Hull 300.42.63	greenstone	
100		axe, fr	Bridlington	TA 1868	Hull 300.42.71	greenstone	
101		axe, fr	Aldro	SE 8062	Hull 300.42.72	greenstone	
102		axe, fr	Bridlington	TA 1868	Hull 300.42.73	near I	
103		axe	Cowlam	SE 9765	Hull 300.42.74	near I	
104		axe	Scarborough	TA 0488	Hull 300.42.75	greenstone	
105		axe	W. Heslerton	SE 9176	Hull 300.42.76	XVIII	
106		axe	Bridlington	TA 1868	Hull 300.42.79	I	
107		axe	Buckton	TA 1973	Hull 300.42.80	I	
108		axe	Rudston	TA 0967	Hull 300.42.83	greenstone	
109		axe	Kilham	TA 0664	Hull 300.42.84	greenstone	
110		axe, pt	Nr Bridlington	TA 1868	Hull 300.42.85	XVIII	
111		axe	Meaux	TA 1040	Hull 300.42.87	metamorphosed	greywacke
112		axe	Lutton	SE 9470	Hull 300.42.88	foraminiferal	limestone
113		axe	Cottam	SE 9965	Hull 300.42.89	greywacke	
114		axe	Buckton	TA 1972	Hull 300.42.91	near XVIII	
115		axe	Langtoft	TA 0167	Hull 300.42.92	greywacke	
116		axe	Huntow	TA 1870	Hull 300.42.93	I	
117		axe	Birdsall, Coke Fields	SE 8265	Hull 300.42.94	pure quartzite	
118		axe	Buckton	TA 1973	Hull 300.42.95	I	
119		axe	Wolds	-	Hull 300.42.96	greenstone	
120		axe	Wolds	-	Hull 300.42.97	VI	
121		axe	Wolds	-	Hull 300.42.98	greenstone	
122		axe	Wolds	-	Hull 300.42.99	greenstone	
123		axe	Wolds	-	Hull 300.42.100	near I	
124		axe	Wolds	-	Hull 300.42.101	I	
125		axe	Wolds	-	Hull 300.42.102	XVIII	
126		axe	Wolds	-	Hull 300.42.103	XVIII	
127		axe	Wolds	-	Hull 300.42.104	greenstone	
128		axe	Wolds	-	Hull 300.42.106	I	
129		axe	Wolds	-	Hull 300.42.107	XVIII	
130		axe	Wolds	-	Hull 300.42.108	XVIII	
131		axe	Wolds	-	Hull 300.42.109	I	
132		axe, pt	Helporthorpe	SE 9570	Hull 300.42.110	greenstone	
133		axe	Rudston	TA 1067	Hull 300.42.111	XVIII	
134		axe	E. Heslerton	SE 9377	Hull 300.42.112	VI	
135		axe	Cottam	SE 9965	Hull 300.42.113	greywacke	
136		axe	Wolds	-	Hull 300.42.115	greenstone	
137		axe	E. Heslerton	SE 9377	Hull 300.15.116	XVIII	
138		axe	Wolds	-	Hull 300.42.117	IX	
139		axe	Wolds	-	Hull 300.42.118	greywacke	
140		axe	Malton	SE 7972	Hull 300.12.119	VII	
141		axe	Cottingham	TA 3304	Hull 300.15.120	VI	
142		axe	Elmswell Wold	SE 9858	Hull 300.42.121	VI	
143		axe	Wolds	-	Hull 300.42.127	granophyre	
144		axe	Wolds	-	Hull 300.15.128	dolerite	
145		mace	Tickton	TA 9041	Hull 62.64	quartz dolerite	
146		axe	Filey	TA 1180	Malton P.15.1	VI	
147		mace	Ryton	SE 7975	Malton P.53.1	XVIII	
148		axe	Huttons Ambo	SE 7468	Malton P.87.1	greenstone	
149		axe	Bempton	TA 1972	Malton P.101.1	I	
150		axe	Bempton	TA 1972	Malton P.101.3	greenstone	
151		axe	Bempton	TA 1972	Malton P.101.4	XVIII	
152		axe	Scriven	SE 3558	Harrogate K.60	sandstone	
153		axe	Scriven	SE 3558	Harrogate K.61	greywacke	
154		axe	Fewston	SE 1954	Harrogate K.63	sheared greenstone	
155		axe	Fewston	SE 1954	Harrogate K.64	fine grained sandstone	
156		axe	Blubberhouses	SE 1554	Harrogate K.69	fine grained sandstone	
157		axe	Blubberhouses	SE 1655	Harrogate K.70	quartzite or sandstone	
158		axe	Rudding Park	SE 332525	Harrogate K.72	greenstone	
159		axe, pt	Kirby Overblow	SE 3249	Harrogate K.73	XX	
160		axe	Norwood	SE 2151	Harrogate K.74	fossiliferous limestone	
161		axe	Minskip	SE 3964	Harrogate 60.7	XV	
162		axe	Rigton	SE 276515	Harrogate 60.11	XVIII	
163		axe	Pateley Bridge	SE 153650	Harrogate 54.3	VII	
164		axe	Pateley Bridge	SE 153650	Harrogate 64.4	XVIII	
165		axe	Rudston	TA 0867	Yks Mus 325.1948	VI	
166		axe	Oldstead	SE 5280	Yks Mus 400.1948	VI	
167		axe	Seamer	TA 0183	Yks Mus 412.1948	VI	
168		axe	Nr Whitby	NZ 9010	Yks Mus 418.1948	VI	
169		axe	Stittenham	SE 6867	Yks Mus 419.1948	I	
170		a-h	North Burton	TA 0872	Yks Mus 1009.1948	greywacke	
171		a-h	Rigg Hall	NZ 9105	Yks Mus 1042.1948	XVIII	
172		a-h	East Riding	-	Yks Mus 1043.1948	diorite	
173		a-h	Park, Pickering	SE 8085	Yks Mus 1057.1948	quartzite	
174		axe	Dalton	SE 173169	Huddersfield 33.1.57	VI	
175		axe	Farnley Tyas	SE 150130	Huddersfield A.18.58	IX	
176		axe	Greenfield	SO 9903	Huddersfield A.19.58	metadolerite	
177		axe	Huddersfield	SE 1516	Huddersfield A.20.58	VI	
178		axe, pt	Horn Hill	SE 172086	Huddersfield A.22.58	greenstone	
179		a-h, pt	Kirkburton	SE 200133	Huddersfield A.24.58	XV	
180		axe, fr	Almondbury	SE 153142	Huddersfield S.1	volcanic ash or silicified tuff	
181		axe	Sutton in Craven	SE 0041	Keighley M.613.1	VI	
182		axe	Sutton in Craven	SE 0042	Keighley M.613.2	epidiorite	
183		axe	Keighley	SE 0641	Keighley 7387	slate	
184		axe, pt	Keighley	SE 0641	Keighley 7504	VI	
185		mace	Willerby Wold	TA 022755	Brindlington WW	greenstone	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
186		axe, fr	Willerby	TA 018781	Bridlington SW1	VI	
187		axe	Pocklington	TA 807474	Woldgate Co Sec Sch	I	
188		axe, fr	Rudston	TA 117667	J. R. Earnshaw	greywacke	
189		axe	Filey	TA 1180	J. C. Crinlisk C1	VI	
190		axe	Filey	TA 1180	J. C. Crinlisk C2	tuff	
191		axe, fr	Filey	TA 1180	J. C. Crinlisk C3	VI	
192		axe, fr	Bessingby	TA 1566	T. G. Manby	i	
193		axe	Flixton Carr	TA 0380	T. G. Manby	XVIII	
194		axe, fr	Bridlington	TA 136671	J. Davier 284	VII	
195		axe, fr	Bridlington	TA 1367	J. Davies 2707	VI	
198		axe, pt	Bridlington	TA 1367	J. Davies 2711	biotite quartzite	
197		axe, fr	Flamborough	TA 220693	J. Davies 4079	VI	
198		axe, fr	Bridlington	TA 136669	J. Davies 4535	greenstone	
199		axe, fr	Ebberston	TA 903873	S.W. Feather F1	VI	
200		axe	Saddleworth	SJ 995078	Saddleworth	greenstone	
201		axe	Sancton	SE 9040	Hull 9.63.2	greenstone	
202		axe	Lowthorpe	TA 0860	Hull 114.86	VII	
203		axe	Etton	SE 9843	Hull 202.85	dolerite in contact with count- ry rock	
204			Cottingham	TA 0533	Hull 13.67	greenstone	
205		axe	Thwing	TA 0471	Hull 300.42.1	xx	
206		axe	West Lutton	SE 9569	Hull 300.42.2	XVIII	
207		b-a. pt	Wold Newton	TA 0573	Hull 300.42.3	XVIII	
208		axe, fr	Aldro	SE 8063	Hull 300.42.4	VI	
209		axe, fr	Sledmere	SE 9364	Hull 300.42.5	XVIII	
210		mace	Lutton	SE 9570	Hull 300.42.6	greywacke	
211		axe, fr	Sledmere	SE 9364	Hull 300.42.7	andesite	
212		axe, fr	Lutton	SE 9570	Hull 300.42.8	VI	
213		axe, fr	Thixendale	SE 8461	Hull 300.42.9	VI	
214		axe, fr	Aldro	SE 8063	Hull 300.42.10	VI	
215		axe, fr	Fridaythorpe	SE 8869	Hull 300.42.11	VI	
216		axe, fr	Daletown	SE 5388	Hull 300.42.12	VI	
217		axe, fr	Lutton	SE 9570	Hull 300.42.13	tuff	
218		a-h	Burstwick	TA 2327	Hull 300.42.14	XVIII	
219		axe	Driffield Wold	TA 0262	Hull 300.42.15	granophyre	
220		axe, fr	Lutton	SE 9570	Hull 300.42.16	tuff	
221		axe	Huggate Wold	SE 8857	Hull 300.42.17	tuff	
222		axe, pt	Driffield Wold	TA 0262	Hull 300.42.18	VI	
223		axe, fr	Daletown	SE 5388	Hull 300.42.19	VI	
224		axe	Wold Newton	TA 0573	Hull 300.42.20	XVIII	
225		axe, fr	Lutton	SE 9470	Hull 300.42.22	coarse tuff	
226		axe, fr	Wharram	SE 8666	Hull 300.42.23	medium grained tuff	
227		axe, fr	Daletown	SE 5388	Hull 300.42.25	near VII	
228		mace, unfin ?	Pimber	SE 9062	Hull 300.42.33	greenstone	
229		axe, fr	Thixendale	SE 8461	Hull 300.42.34	coarse tuff	
230		axe, fr	Lutton	SE 9470	Hull 300.42.38	coarse tuff	
231		axe, fr	Driffield	TA 0358	Hull 300.42.38	coarse tuff	
232		mace, unfin ?	Wold Newton	TA 0573	Hull 300.42.39	XVIII	
233		axe, fr	Lutton	SE 9470	Hull 300.42.40	VI	
234		axe	Carnaby	TA 1566	Hull 300.42.44	basalt	
235		axe, pt	Fridaythorpe	SE 8759	Hull 300.42.45	XVIII	
236		axe	Burdale	SE 8762	Hull 300.42.48	greywacke	
237		axe	Bridlington	TA 1867	Hull 300.42.50	VI	
238		adze	Lutton	SE 9569	Hull 300.42.54	tuff	
239		axe	Aldro	SE 8063	Hull 300.42.55	quartz dolerite	
240		axe, fr	Daletown	SE 5388	Hull 300.42.56	coarse tuff	
241		axe	Aldro	SE 8063	Hull 300.42.57	XVIII	
242		axe	Burdale	SE 8762	Hull 300.42.58	XVIII	
243		b-a	Buckthorpe (? Bugthorpe)	-	Hull 300.42.60	sub-greywacke	
244		axe	Fimber	SE 9062	Hull 300.42.61	greywacke	
245		axe	Hutton Cranswick	TA 0353	Hull 300.42.62	quartz dolerite	
246		mace, unfin ?	Cottingham	TA 051349	Hull 300.42.64	sedimentary quartzite	
247		axe, fr	Lowthorpe	TA 0960	Hull 300.42.65	coarse basic Igneous rock	
248		axe, pt	Wold Newton	TA 0574	Hull 300.42.66	altered hornblende andesite	
249		axe	Foxholes	TA 0072	Hull 300.42.67	dolerite	
250		axe	Bridlington	TA 1888	Hull 300.42.68	unidentified	
251		axe	Bridlington	TA 1888	Hull 300.42.69	greenstone	
252		axe	South Cave	SE 8331	Hull 300.42.70	XVIII	
253		axe	Cottingham	TA 051349	Hull 300.42.78	VII	
254		axe	Flaaborough	TA 2371	Hull 300.42.82	altered tuff	
255		axe, pt	Huggate Wold	SE 8857	Hull 300.42.86	VI	
256		axe	Heslerton	se 9377	Hull 300.42.90	devitrified rhyolite	
257		axe	Weaverthorpe	se 9770	Hull 300.42.135a	olivine basalt	
258		axe	Lutton	SE 9369	Hull 300.42.149	VII	
259		axe	Lowthorpe	TA 0760	Hull 300.42.153	VI	
260		axe	Driffield Wold	TA 0161	Hull 360.42.154	VI	
261		axe	Holderness	-	Hull 300.42.155	VI	
262		axe	Driffield	TA 0258	Hull 300.42.171	devitrified tuff (not VI)	
263		axe	Thixendale	SE 8461	Hull 300.42.172	VI	
264		axe	Ganton	SE 9976	Hull 300.42.185	VI	
265		axe	Wassand. ?Wass near Byland	-	Hull 300.42.198	VI	
266		axe	Hutton Cranswick	TA 0252	Hull 300.42.190	VI	
267		axe	Ganstead	TA 1534	Hull 300.42.191	VI	
268		axe	Weaverthorpe	SE 9770	Hull 300.42.192	VI	
269		axe	Swine	TA 1335	Hull 300.42.198	tuff	
270		mace, pestle	Hotham	SE 8034	Hull 300.42.299	quartzite	
271		mace	Bempton	TA 1972	Hull 300.42.300	quartzite	
272		hammer ?	Thornton Dale	SE 8383	Hull 300.42.302	XVIII	
273		mace	Weaverthorpe	SE 9770	Hull 300.42.304	near XVIII	
274		mace	Garton Slack	SE 9659	Hull 300.42.307	quartzite	
275		mace	Aldro	SE 8063	Hull 300.42.308	quartzite	
276		b-a	Hanging Grimston 90	SE 7962	Hull M.233	unknown (lost)	
277		a-h	Calais 23	SE 5483	Hull M.399	olivine dolerite	
278		mace, ovoid	Garrowby C69	SE 5680	Hull M.373	XVIII	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
279		b-a, pt	Blanch C89	SE 5490	Hull M.961	unknown (lost)	
280		axe, pt	Huggate, Barrow 229	SE 5786	Hull B.229.1	VI	
281			?Huggate, Barrow 229	SE 5786	Hull B.229.2	VI	
282			?Huggate, Barrow 229	SE 5786	Hull B.229.3	banded tuff	
283		axe	North Dale, Grindale	TA 1572	Hull 91.59.48	VI	
284		axe	North Burton (or Burton Fleaing)	TA 0872	Hull 91.59.49a	greenstone	
285		axe	North Burton (or Burton Fleming)	TA 0672	Hull 91.59.49b	VI	
286		axe	North Burton (or Burton Fleming)	TA 0872	Hull 91.59.49c	altered tuff	
287		axe	North Burton (or Burton Fleming)	TA 0872	Hull 91.59.51	unidentified	
288		axe	North Burton (or Burton Fleming)	TA 0872	Hull 91.59.52	unidentified	
289		axe	Watton, Abbey	TA 0249	L. H. Butcher	tuff	
290		axe	Near Yarn	NZ 4212	Sheffield J.93.39	VI	
291		axe	7 miles E. of Pickering	?	Sheffield J.33.60	greenstone	
292		axe	North Dale, Grindale	TA 1572	Sheffield J.1931.7	VI	
293		axe	North Dale, Grindale	TA 1572	Sheffield J.1931.4	XVIII	
294		axe	Flawborough	TA 2269	Sheffield J.1931.6	amphibolite	
295		axe	North Dale, Grindale	TA 1572	Sheffield J.1931.2	greenstone	
296		axe	North Dale, Grindale	TA 1572	Sheffield J.1931.3	XVIII	
297		axe	North Dale, Grindale	TA 1572	Sheffield	I	
298		axe	Atwick	TA 1950	Sheffield J.98.21	VI	
299		axe	Nr Pickering	SE 8084	Sheffield J.93.49	VII	
300		axe	Nr Barff, Bridlington	TA 1075	Sheffield	VI	
301		axe, fr	Nr Barff, Bridlington	TA 1075	Sheffield	VI	
302		axe	Bridlington	TA 1867	Sheffield	VI	
303		axe, fr	Barff	TA 1075	Sheffield	VI	
304		axe	Hutton Buscel	SE 9783	Sheffield J.1942.28	greenstone	
305		axe	Hunton, Richmond	SE 9219	Sheffield J.1942.29	greenstone	
306		axe	Barmston	TA 1559	Sheffield J.1942.30	epidote feldspar tuff	
307		a-h	Sherburn	SE 9676	Sheffield J.93.3	XVIII	
308		b-a	barrow, 11m E of Pickering	?	Sheffield J.93.9	XVIII	
309		b-a	barrow, 2m N of Pickering	?	Sheffield J.93.22	near XVIII	
310		axe	North Dale, Grindale	TA 1572	Sheffield J.1931.5	quartz dolerite	
311		axe	North Dale, Grindale	TA 1572	Jackson collection	greenstone	
312		axe	North Dale, Grindale	TA 1572	Jackson collection	near I	
313		axe	North Dale, Grindale	TA 1572	Jackson collection	greenstone	
314		axe	North Dale, Grindale	TA 1572	Jackson collection	I	
315		axe	Binsdale, nr Boynton	TA 1268	Jackson collection	VI	
316		axe	Binsdale, nr Boynton	TA 1268	Jackson collection	VII	
317		axe	Grindale	TA 1371	Jackson collection	quartz dolerite	
318		axe	Cottam	SE 9864	Jackson collection	micaceous sandstone	
319		axe	Cottam	SE 9864	Jackson collection	dolerite	
320		axe	Grindale	TA 1371	Rotherham 6	XVIII	
321		axe	Speeton	TA 1674	Rotherham 8	I	
322		axe	North Dale, Grindale	TA 1572	Rotherham 9	quartz feldspar tuff	
323		adze	Bempton	TA 1972	Liverpool 54.86.96	VI	
324		adze	Bempton	TA 1972	Liverpool 54.86.92	hornblende granite	
325		b-a	nr Scarborough	TA 8804	Sheffield J.93.10	quartzite	
326		mace	Aldro	SE 6281	Hull 300.42.305	olivine basalt	
327		mace	Fimber	SE 8961	Hull 300.42.306	sub-greywacke	
328		a-h	Harpham	TA 0961	Hull 84.59	VI	
329		axe	Great Ayton	NZ 5511	Middlesbrough	volcanic rock (Borrowdale Series)	
330		axe	Leeds, Roundhay	SE 321379	Leeds	volcanic rock (Borrowdale Series)	
331		axe	Leeds, Neville Street	SE 2933	Leeds	volcanic rock (Borrowdale Series)	
332		axe	Leeds, Alwoodley Cres.	SE 314401	Leeds	volcanic rock (Borrowdale Series)	
333		mace	Frickley	SE 4607	Sheffield	sub-greywacke	
334		a-h	Kirkbymoorside	SE 6986	Sheffield	greywacke (atypical)	
335		axe	Wickersley	SK 4892	pp	VI	
336		axe, fr	Gilling East	SE 6176	Yorkshire Museum	fine grained tuff (Helvellyn?)	
337		axe, fr	Flamborough, Beacon Hill	TA 225693	Scarborough 880.51	micaceous chlorite siltstone	
338		axe, fr	Flamborough, Beacon Hill	TA 225693	Scarborough 881.51	highly siliceous siltstone	
339		axe, fr	Flamborough, Beacon Hill	TA 225693	Scarborough 1278.51	VI	
340		axe, fr	Flamborough, Beacon Hill	TA 225693	Scarborough 878.51	VI	
341		axe, fr	Flamborough, Beacon Hill	TA 225693	Scarborough 879.51	VI	
342		axe, fr	Ousethorpe, Hillington	SE 81251	J.W. Varley	VII	
343		axe	Whiston	SK 465901	Rotherham 2	VI	
344		axe	Maltby	SK 5292	Rotherham 3	VI	
345		axe	Morthen	SK 4789	Rotherham 4	jadeite	
346		axe	West Melton	SE 4201	Sheffield Loan	greenstone	
347		axe	Crookes, Sheffield	SK 3287	Sheffield J 1929. 170	near I	
348		axe	Upperthorpe, Sheffield	SK 3488	Sheffield J 16.10.75	VII	
349		mace	Beauchief, Sheffield	SK 3282	Sheffield J. 1949. 103	XVIII	
350		a-h	Blackburn Brook, Sheffield	SK 3892	Sheffield J. 1923. 38	XVIII	
351		p-h	Bridlington (c1917)	TA 1766	Leeds D.5.1964	chert	
352		axe	Bridlington (c1917)	TA 180665	Leeds D. 25a. 1964	I	
353		axe	Bridlington (c1917)	TA 185675	Leeds D. 25b. 1964	XVI	
354		axe	Bridlington (c1917)	TA 1766	Leeds D. 25c. 1964	greenstone	
355		axe	Bridlington (c1917)	TA 190690	Leeds D. 25d. 1964	XVIII	
356		axe	Bridlington (c1917)	TA 1968	Leeds D.27.1964	VII	
357		adze	Arthington	SE 263460	Leeds D.125.1964	silty fossiliferous limestone	
358		axe	Birdsall	SE 809629	Leeds D.126.1964	tuff	
359a		axe	Birdsall	SE 809629	Leeds D.127a.1964	tuff	
359b		axe	Birdsall	SE 809629	Leeds D.127b. 1964	VI	
360		axe	Boltby	SE 4866	Leeds D.128.1964	tuff	
361		axe	Hunmanby	TA 0977	Leeds D.129.1964	greenstone	
362		axe	Leeds	SE 297383	Leeds D.130.1964	VI	
363		axe	Leeds	SE 299332	Leeds D.131.1964	VI	
364		axe	Leeds	SE 320379	Leeds D.132.1964	VI	
365		axe	Leeds	SE 335385	Leeds D.133.1964	xx	
366		axe	Leeds	SE 344364	Leeds D.134.1964	VI	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
387		axe	Fimber (Low Towthorpe)	SE 9062	Leeds D. 135.1964	I	
388		axe	Raskelf	SE 490710	Leeds D.136.1964	VI	
389		axe	Scarborough	TA 0388	Leeds D.137.1964	greenstone	
370		axe, fr	Scarborough	TA 0388	Leeds D. 138.1964	tuff	
371		a-h	Normanton	SE 376244	Leeds D. 139.1964	hornblende	granophyre
372		a-h	Morley	SE 268259	Leeds D.140.1964	XVIII	
373		p-h	Leeds	SE 299332	Leeds D.141.1964	greenstone	
374		axe	Garforth	SE 407283	Leeds D.171.1964	greenstone	
375		axe	Leeds	SE 313399	Leeds D.190.1964	VI	
376		a-h	Conisborough	SK 5068	Leeds D.193.1964	quartz amphibolite	
377		a-h	Whitby	NZ 900100	Leeds D.194.1964	XVIII	
378		a-h	Leeds	SE 2935	Leeds D.195.1964	near XVIII	
379		axe	Farnley	SE 134174	Huddersfield 21.1.66	xv	
380		a-h	Sheriff Hutton	SE 655665	Leeds D.197.1964	XVIII	
381		axe, perf	Whitby	NZ 8911	Leeds D.198.1964	dolerite	
382		a-h	Harewood	SE 343429	Leeds D.199.1964	impure sandstone	
383		a-h	Scarborough	TA 0388	Leeds D.460.1964	greywacke	
384		axe	Pickering	SE 8084	Leeds D.504.1964	VI	
385		a-h	Kirkby Malzeard	SE 2374	Leeds D.508.1964	porphyry	
386		axe	South Elmsall	SE 473123	Leeds D.6.1964	greenstone	
387		b-a	Harwood Dale, nr Scarborough	SE 9595	Leeds D.81.1964	quartzite	
388		a-h	Stutton with Hazelwood	SE 4640	Leeds D.42.1968	XVIII	
389		axe	Chapel-le-Dale, Ingleborough	SD 347577	Leeds (on loan Aller ton Grange Sch)1970	VI	
390		a-h	Helmsley	SE 6282	Hull 300.42.27	XV	
391		adze	Whitby	NZ 9012	Hull 300.42.41	non-ophitic dolerite	
392		axe	Nafferton Wold	TA 0659	Hull 300.42.123	VI	
393		axe	Bridlington	TA 1768	Hull 300.42.124	VI	
394		axe	Yorks Wolds	-	Hull 300.42.125	xv	
395		axe	Kilham	TA 0884	Hull 300.42.126	epidotised feldspathic tuff	
396		axe	Nafferton	TA 0659	Hull 300.42.129	VI	
397		axe	Tibthorpe	SE 9556	Hull 300.42.130	greenstone	
398		axe	Wold Newton	TA 0573	Hull 300.42.131	greywacke	
399		axe	East Yorks	-	Hull 300.42.132	epidotised tuff	
400		axe	Yorks Wolds	-	Hull 300.42.142	anthophyllite rock	
401		axe	Hutton Cranswick	TA 0353	Hull 300.42.145	VI	
402		axe	Yorks Wolds	-	Hull 300.42.146	XVIII	
403		axe	Withernsea	TA 3428	Hull 300.42.148	VI	
404		axe	Driffield Wold	TA 0262	Hull 300.42.154	VI	
405		axe	Demming	TA 1462	Hull 300.42.158	VI	
408		adze	Thixendale	SE 8461	Hull 300.42.159	VI	
407		axe	East Yorks	-	Hull 300.42.161	VI	
408		axe	Speeton	TA 1574	Hull 300.42.162	I	
409		axe	Linton	SE 910710	Hull 300.42.165	VI	
410		axe	Arram	TA 0444	Hull 300.42.166	VII	
411		axe	Thixendale	SE 8481	Hull 300.42.167	XXIV	
412		axe	Painslack, nr Wetwang	SE 9157	Hull 300.42.174	andesite	
413		s-h adze	Yorks Wolds	-	Hull 300.42.176	XVIII	
414		axe	Strensall	SE 6560	Hull 300.42.177	VI	
415		a-h	Lowthorpe	TA 0960	Hull 300.42.179	XVIII	
416		a-h	Driffield	TA 2057	Hull 300.42.347	quartz dolerite	
417		adze-hammer	Meaux	TA 0939	Hull 300.42.376	quartz dolerite	
418		a-h	Hutton Cranawick	TA 0252	Hull 300.42.378	XVIII	
419		a-h	Atwick	TA 1950	Hull 300.42.380	XVIII	
420		a-h	Parndale	SE 6697	Hull 300.42.462	XVIII	
421		a-h	Sewerby, Bridlington	TA 205690	Hull 54.67	XVIII	
422		a-h	Catfoss, Seaton	TA 144481	Hull 92.69	XVIII	
423		p-h	Flixtton	TA 0379	Scarborough 804.38	olivine dolerite	
424		p-h	Willerby	TA 0279	Scarborough 805.38	micaceous sandstone	
425		b-a	Cayton	TA 0682	Scarborough 806.38	XVIII	
428		axe	nr Filey	TA 1180	Scarborough 804.46	VI	
427		axe	nr Filey	TA 1180	Scarborough 804.48	VI	
428		axe	nr Filey	TA 1180	Scarborough 807.46	XVIII	
429		axe	nr Filey	TA 1180	Scarborough 810.46	coarse lithic sandstone	
430		axe	nr Filey	TA 1180	Scarborough 8.11.46	VII	
431		axe	nr Filey	TA 1180	Scarborough 812.46	spotted slate	
432		axe	nr Filey	TA 1180	Scarborough 813.46	greywacke	
433		axe	nr Filey	TA 1180	Scarborough 814.46	VII	
434		a-h	Scalby	TA 0190	Scarborough 28.47	XVIII	
435		axe	Bridlington	TA 1968	Scarborough 815.52	XVIII	
436		axe	Flamborough	TA 2170	Scarborough 817.52	XVIII	
437		axe	Grindale	TA 1371	Scarborough 818.52	VI	
438		axe	Hunmanby	TA 102740	Scarborough 835.52	greenstone	
439		axe	Bridlington	TA 1767	Scarborough 836.52	greenstone	
440		axe	Bempton	TA 168716	Scarborough 843.52	ophitic gabbro	
441		axe	Bridlington area	TA 1867	Scarborough 844.52	greenstone	
442		b-a	Hunmanby	TA 0976	Scarborough 851.52	metadolerite	
443		axe	Hutton Buscel	SE 9784	Scarborough 128.54	XVIII	
444		axe	Hutton Buscel	SE 9781	Scarborough 129.64	foraminiferal limestone	
445		mace	Hutton Buscel	SE 9784	Scarborough 130.54	XVIII	
448		axe	Hackness	SE 9690	Scarborough 356.55	VI	
447		axe	Hackness	SE 9690	Scarborough 357.56	VI	
448		axe	Seamer	TA 009833	Scarborough 292.56	VI	
449		axe	Ebberston	SE 8963	Scarborough 59.58	VI	
450		axe	Seamer	TA 021828	Scarborough 521.58	xx	
451		axe	Seamer	TA 026826	Scarborough 138.63	VI	
452		axe	Seamer	TA 026826	Scarborough 139.63	VI	
453		axe	Hutton Buscel	SE 969854	Scarborough 142.63	acid tuff	
454		axe	Weaverthorpe	SE 9672	Scarborough 808.65	I	
455		axe	Staintondale	NZ 985001	Scarborough 211.68	quartzite	
456		axe	Walton	SE 455474	Yks Mus	VI	
457		axe	Cleckheaton	SE 185205	Tolson Mus, Huddersf ield	XVIII	
458		axe	Rishworth	SD 9917	Tolson Mue, Huddersf ield AH2597	non-ophitic quartz dolerite	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
459		axe	Eldwick	SE 125423	Bradford 446.32	VI	
460		axe	Hunmanby	TA 086750	Bradford 12.33	tuff	
461		axe	Hunmanby	TA 086750	Bradford 13.33	VI	
462		axe	Hunmanby	TA 086750	Bradford 14.33	VI	
463		axe	Hunmanby	TA 086750	Bradford 15.33	XV	
464		axe	R u d s t o n	TA 09678	Bradford 16.33	VI	
465		axe	Skyrethorns. Grassington	SD 964645	Bradford 17.33	VI	
466		axe	H u n m a n b y	TA 0977	Bradford 174.33	VI	
467		axe	Rawdon. Leeds	SE 201384	Bradford 1.35	VI	
468		axe	Lidget Green, Bradford	SE 131324	Bradford NW.38	VI	
469		axe	Clayton. Bradford	SE 128319	Bradford NH43.51	tuff	
470		axe	Bingley	SE 088429	Bradford A60.53	devitrified rhyolite	
471		axe	Bolton. Bradford	SE 169351	Bradford A4.55	XVIII	
472		axe	Bolton. Bradford	SE 169351	Bradford A6.55	basalt	
473		axe	Stainforth. Settle	SD 822661	Bradford A1.56	IX	
474		axe	Eldwick. Bingley	SE 141418	Bradford A2.58	VII	
475		axe	Calverley	SE 204349	Bradford A25.58	VI	
476		axe	Yorks	-	Bradford A35.60	amphibolite	
477		axe	Yorks	-	Bradford A23.63	I	
478		axe	Bradford. Wyke	SE 155268	Bradford A11.64	XVIII	
479		axe	Burley Moor. Ilkley	SE 142443	Bradford A46.86	VI	
480		axe	Fairweather Green, Bradford	SE 133337	Bradford A47.66	tuff	
481		p-h	East Ayton	SE 992874	Scarborough 748.38.3	olivine dolerite	
482		mace	Scarborough	TA 0486	Scarborough 877.38.2	near XVIII	
483		pebble. cupped	Hunmanby	TA 0774	Scarborough 850.52	XVIII	
484		axe	Scarborough	TA 0489	Scarborough 1860.51	fine amphibolite	
485		axe	Hutton Buscel	SE 966860	Scarborough 278.56	sandy oolitic limestone	
486		p-h	Muston	TA 0979	Scarborough 386.38	greywacke	
487		pebble. cupped	Folkton	TA 049777	Scarborough 813.38	greywacke	
488		a-h	Hutton Buscel	SE 9781	Scarborough 808.36	gabbro	
489		a-h	near Pickering	SE 7984	Scarborough 799.38	coarse lithic limestone	
490		a-h	Scalby	TA 0090	Scarborough 803.38	XVIII	
491		a-h	Ruston	SE 960808	Scarborough 124.61	XVIII	
492		axe	Irton	TA 006842	Scarborough 45.71	VI	
493		axe	Wold Newton	TA 0473	Scarborough 628.70	VI	
494		axe	Boynton	TA 1368	Scarborough 811.52	XVIII	
495		b-a	Dal ton Holme	SE 9346	Scarborough 629.70	XVIII	
496		axe	Seamer	TA 034835	Scarborough 157.70	i	
497		axe	Hutton Buacel	SE 963865	Scarborough 141.63	XVIII	
498		axe, perf	Lockton	SE 8797	Scarborough 341.71	sandstone	
499		axe	Weaverthorpe	SE 9672	Scarborough 807.65	andesite	
500		axe	Filey	TA 123813	Scarborough 484.70	VI	
501		s-h adze	seamer	TA 021828	Scarborough 522.58	XVIII	
502		axe	Willerby	TA 0075	Scarborough 36.73	andesite	
503		p-h	Willerby	TA 0075	Scarborough 37.73	XVIII	
504		axe	Cloughton	TA 0094	Scarborough 1859.51	tuff	
505		axe	Scagglethorpe	SE 8372	Scarborough 132.57	VI	
506		axe	Kilham	TA 0664	Scarborough 29.82	VI	
507		axe	Seamer	TA 025828	Scarborough 293.56	VI	
508		axe	Ganton	SE 004746	Scarborough 510.52	I	
509		axe	Healerton Wold	SE 9274	Scarborough 837.52	VI	
510		axe	nr Kirkby Moorside	SE 6984	Scarborough 1015.51	VI	
511		axe	Gristhorpe	TA 0881	Scarborough 769.38	VI	
512		p-h	Seamer	TA 0202	Scarborough 18.55	dolerite	
513		axe	Wintringham	SE 9171	Scarborough 10.49	tremolite fels	
514		axe	Willerby Wold	TA 0175	Scarborough 823.52	lava	
515		a-h	Scalby	TA 0090	Scarborough 797.38	XVIII	
516		a-h	East Ayton	SE 9985	Scarborough 802.38	- XVIII	
517		axe	South Kirkby	SE 434116	PP	VI	
518		axe	Chapel Haddlesey	SE 5826	Leeds D.62.1971	tufe	
519		cupped pebble?	Kirkstall	SE 2736	Leeds D-2.1974	quartzite	
520		axe	Knaresborough	SE 3557	Leeds D.1.1974	VI banded	
521		a-h	Adel	SE 2838	Leeds D.92.1971	XV	
522		axe	Appleton-le-Moor	SE 7487	Leeds D.93.1971	VI medium	
523		axe	Hackness	SE 9790	Leeds D.89.1971	VI medium	
524		axe	Leeds (Seacroft)	SE 346370	Leeds Mus.Sch.Servic e 507/1974	VI medium	
525		axe	Arncliffe?	SD 9172?	Leeds Hus.Sch.Servic e 528/1974	greenstone	
526		axe	York (under city walls)	SE 605510	Cumae	VI	
527		axe	Farnley Moor	SE 2147	Northampton	greywacke	
528		axe	Thorpe	TA 1167	Scunthorpe AAF 124	VI	
529		axe	Little Weighton	SE 984338	Scunthorpe AAF 125	VI	
530		axe	Tickton	TA 065426	Scunthorpe AAF 126	VI	
531		axe	Shipton	SE 5759	Scunthorpe AAF 127	VI	
532		axe	Hayton	SE 820460	Scunthorpe AAF 129	tuff	
533		axe	Weaverthorpe	SE 975718	Scunthorpe AAF 130	VII	
534		axe	Arras (Market Weighton)	SE 925417	Scunthorpe AAF 131	VI	
535		axe	Arras (Market Weighton)	SE 925417	Scunthorpe AAF 144	VI	
536		axe	Tickton	TA 065420	Scunthorpe AAF 145	VI	
537		axe	South Dal ton	SE 967452	Scunthorpe AAF 174	VI	
538		axe	Easthorpe	SE 886455	Scunthorpe AAF 177	VI	
539		axe	West Luton	SE 9470	Scunthorpe AAF 180	tuff	
540		axe	Duggleby	SE 8867	Scunthorpe AAF 182	acid tuff	
541		axe	Weaverthorpe	SE 9670	Scunthorpe AAF 207	quartz dolerite	
542		axe	Bridlington	TA 1868	Scunthorpe AAF 208	greenstone	
543		axe	Bridlington	TA 1868	Scunthorpe AAF 209	greenstone	
544		axe	North Burton	TA 0872	Scunthorpe AAF 210	XVIII	
545		axe	Lou Mowthorpe	SE 8967	Scunthorpe AAF 212	olivine dolerite	
546		axe	Bridlington	TA 1868	Scunthorpe AAF 213	VI	
547		axe	North Burton	TA 0872	Scunthorpe AAF 214	tuff	
548		axe	Bridlington	TA 1868	Scunthorpe AAF 217	VI	
549		axe	North Burton	TA 0872	Scunthorpe AAF 218	VI	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
550		axe	Bridlington	TA 1868	Scunthorpe AAF 219	VI	
551		axe	North Burton	TA 0872	Scunthorpe AAF 220	VI	
552		axe	Bridlington	TA 1866	Scunthorpe AAF 221	VI	
553		axe	North Burton	TA 0872	Scunthorpe AAF 222	acid tuff	
554		axe	Thwing	TA 0570	Scunthorpe AAF 223	VI	
555		axe	Thwing	TA 0570	Scunthorpe AAF 224	coarse tuff	
556		axe	North Burton	TA 0872	Scunthorpe AAF 225	VI	
557		axe	North Burton	TA 0872	Scunthorpe AAF 226	VI	
558		axe	Bridlington	TA 1868	Scunthorpe AAF 227	IX	
559		axe	Thwing	TA 0570	Scunthorpe AAF 228	ferruginous sandstone	
560		axe	Thwing	TA 0570	Scunthorpe AAF 229	VI	
561		axe	North Burton	TA 0872	Scunthorpe AAF 230	XVIII	
562		axe	North Burton	TA 0872	Scunthorpe AAF 231	VI	
563		axe	Rudston	TA 0967	Scunthorpe AAF 233	acid tuff	
564		axe	North Burton	TA 0872	Scunthorpe AAF 234	tuff	
565		axe	North Burton	TA 0872	Scunthorpe AAF 235	VI	
566		axe	North Burton	TA 0872	Scunthorpe AAF 237	VI	
567		axe	Buckton	TA 1872	Scunthorpe AAF 238	VI	
568		axe	North Burton	TA 0872	Scunthorpe AAF 239	VI ?	
569		axe	Grindale	TA 151702	Bridlington	coarse tuff	
570		axe	Willerby	TA 004805	Doncaster (Brewster Coll)	greenstone	
571		axe	Willerby	TA 003806	Doncaster (Brewster Coll)	VII	
572		axe	Boynnton	TA 156704	Bridlington	I	
573		axe	Doncaster. Cantley	SK 624990	Doncaster 267.72	VI	
574		hone or chisel	Hunmanby, Bartindale	TA 1074	Doncaster	VI	
575		axe	Grindale	TA 156712	Bridlington A1.72	vesicular lava	
576		axe	Rudston	TA 112663	pp	XVIII	
577		axe	Cottam	SE 988628	pp	XVIII	
578		axe	Rudston	TA 097659	pp	sandstone	
579		axe	Cottam	SE 995616	pp	andesite	
580		axe	Driffield	TA 0357	pp	coarse tuff	
581		axe	Boynnton	TA 122667	pp	VII	
582		axe	Cottam	SE 994617	pp	XVIII	
583		axe	Willerby	TA 0176	pp	VI	
584		axe	Boynnton	TA 122667	pp	coarse lithic sandstone	
585		axe	Boynnton, High Caythorpe	TA 1169	pp	xx	
586		axe	Kilnwick	SE 9949	pp	VII	
587		axe	Boynnton	TA 123606	pp	VI	
588		axe	Rudston	TA 108662	pp	VI	
589		axe	Boynnton	TA 123606	pp	VI	
590		axe	Rudston	TA 112662	pp	VI	
591		axe	Cantley	SK 633999	pp	VI	
592		b-a	Armthorpe	SE 6204	Doncaster 306X	XII	
593		axe	Boynnton	TA 136670	pp	VI	
594		axe	Barnburgh	SE 490034	Rotherham Hist. Soc.	VI	
595		axe	Castleford	SE 445245	Castleford Mus.	VI	
596		axe	Thorpe Salvin	SK 5281	pp	VII	
597		axe	Carnaby	TA 1561	Nottingham Univ.	XVI	
598		axe	Bessingby	TA 516466	Bridlington A54	VII	
599		axe	Rudston	TA 0967	Bridlington A32	trachyte lava	
600		axe	Bridlington	TA 1968	Bridlington A52	quartz dolerite	
601		axe	Bridlington	TA 1968	Bridlington A33	VI	
602		axe	Bridlington	TA 1968	Bridlington A78	quartz dolerite	
603		axe	Beesingby	TA 1666	Bridlington A56	silty mudstone	
604		axe	Barmston	TA 1759	Bridlington A57	VI	
605		axe	Bridlington	TA 1968	Bridlington A55	XVIII	
606		axe	Bridlington	TA 1968	Bridlington A56	greenstone	
607		axe	Bridlington	TA 1968	Bridlington A37	VII	
608		axe	Bridlington	TA 1865	Bridlington A31	XVIII	
609		b-a	Doncaster	SE 561038	Doncaster 308X	XII	
610		axe	Edlington	SK 539959	Doncaster 679-72	tuff	
611		axe	Thwing	TA 030707	Manby 18-KB Find 174	VI	
612		axe	Thwing	TA 030707	Manby 18-KB Find 197	VI	
613		axe	Thwing	TA 030707	Manby 18-KB Find 200	coarse tuff	
614		axe	E. Heslerton	SE 929788	pp	XVIII	
615		axe	E. Heslerton	SE 930770	pp	VI	
616		axe	Fimber	SE 9061	Hull 300/42/21	quartzite	
617		p-h	Beeford	TA 1354	Hull 300/42/24	quartz sandstone	
618		p-h	Settrington	SE 8470	Hull 300/42/28	XVIII	
619		p-h	Fimber	SE 9061	Hull 300/42/30	XVIII	
620		axe, perf	Hunmanby	TA 1077	Hull 300/42/35	fine banded amphibolite	
621		misc artefact. perf	Grimston	SE 8468	Hull 300/42/37	sandstone	
622		p-h	Grindale	TA 1672	Hull 300/42/52	micaceous sandstone	
623		axe	Buckton	TA 1973	Hull 300/42/81	gabbro	
624		axe	Flamborough	TA 2270	Hull 300/42/114	grewacke	
625		axe	Burdale	SE 8762	Hull 300/42/133	XVIII	
626		axe	Fimber	SE 9061	Hull 300/42/137	VI	
627		axe	Wold Newton	SE 0573	Hull 300/42/139	XVIII	
628		axe	Driffield	TA 0357	Hull 300/42/140	tuff	
629		axe	Scam Ridge	SE 8966	Hull 300/42/175	granodiorite	
630		axe	Kilham	TA 0764	Hull 300/42/178	XVIII	
631		axe	Lowthorpe	TA 0960	Hull 300/42/184	VI	
632		axe	Beeford	TA 1354	Hull 300/42/187	VI	
633		axe	Pocklington	SE 8049	Hull 300/42/193	Pine tuff	
634		axe	Cottingham	TA 051349	Hull 300/42/194	VI	
635		axe	Luttons	SE 9470	Hull 300/42/195	VI	
636		axe	Ganton	SE 9978	Hull 300/42/201	VI	
637		axe	Harpham	TA 0962	Hull 300/42/202	VI	
638		axe	Fridaythorpe	SE 8859	Hull 300/42/203	VI	
639		axe	Lowthorpe	TA 0960	Hull 300/42/204	coarse lithic sandstone	
640		fabricator	Painslack	SE 9157	Hull 300/42/205	VII	
641		axe	Garton	SE 9859	Hull 300/42/208	VI	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
642		axe	Kelk	TA 1060	Hull 300/42/209	greenstone	
643		axe	Fridaythorpe	SE 8859	Hull 300/42/210	VI	
644		axe	North Burton	TA 0972	Hull 300/42/211	VI	
645		axe	Garton	SE 9859	Hull 300/42/213	VI	
646		axe	Bridlington	TA 1868	Hull 300/42/216	acid tuff	
647		axe	Thixendale	SE 8361	Hull 300/42/219	VI	
648		axe	Pluckham	SE 8558	Hull 300/42/226	VI	
649		axe	Bridlington	TA 1868	Hull 300/42/228	IX	
650		axe	Southburn	SE 9954	Hull 300/42/239	greenstone	
651		axe	Ganton	SE 9977	Hull 300/42/241	VI	
652		axe	Northdale	TA 0476	Hull 300/42/242	VI	
653		hammer	Kelleythorpe	TA 0156	Hull 300/42/243	XVIII	
654		axe	Birdsall	SE 8063	Hull 300/42/251	VI	
655		axe	Brandesburton	TA 1247	Hull 300/42/253	VI	
656		axe	Elmswell	TA 0058	Hull 300/42/263	VI	
657		axe	Garrowby Wold	SE 8157	Hull 300/42/268	VI	
658		axe	Corps Landing	SE 6137	Hull 300/42/274	VI	
659		axe	Cowlam	SE 9765	Hull 300/42/286	VI	
660		axe	Hornsea	TA 2147	Hull 300/42/287	VI	
661		axe	Riplingham	SE 9632	Hull 300/42/298	VI	
662		axe	Kilham	TA 9064	Hull 300/42/331	greenstone	
663		s-h adze	Barmston	TA 1659	Hull 300/42/357	XVIII	
664		cupped pebble	Sutton-on-Hull	TA 1132	Hull 300/42/358	quartz sandstone	
665		a-h	Sunderlandwick	TA 0155	Hull 300/42/375	XVIII	
666		a-h	Hornsea	TA 2047	Hull 300/42/377	XVIII	
667		a-h	Scarborough	TA 0389	Hull 300/42/381	ophitic gabbro	
668		axe, double. grooved	Fimber	SE 8960	Hull 300/42/383	granodiorite	
669		a-h	Totley	SK 305781	Sheffield 2113	XV	
670		axe	Bolton	SE 7752	DOE Area G137 Bolton	tuff	
671		axe	Faildon	SE 2142	1973 Keighley. Crowther Co XX		
672		axe	Fagley	SD 1533	11 379 Keighley A13.68	VII	
673		axe	Sutton-in-Craven	SE 0144	Keighley M613/3	VIII	
674		axe	Keighley	SD 0740	Keighley 26.68	VI	
675		axe	Lothersdale	SD 9545	Keighley 72.61	greenstone	
676		axe	Keighley	SD 0740	Keighley 7283	xv	
677		axe	Sutton-in-Craven	SE 0144	Keighley 7380	xx	
678		axe	Keighley?	SD 0740	Keighley 7381	tuff	
679		axe	nr Sutton-in-Craven	SE 0144	Keighley 7385	XVIII	
680		axe	Bridlington	TA 180665	Keighley 7392		
681		axe	Kildwick	SD 0247	Keighley 7398	VI ?	
682		axe	Wharram Percy	SE 858642	PP	VI	
683		axe	Boynton	TA 123673	PP	VI	
684		axe	Boynton	TA 122667	PP	VII	
685		axe	Bridlington	TA 1766	PP	VI	
686		axe	Burton Fleming	TA 063723	PP	VII	
687		axe	Cottam	SE 999625	PP	VI	
688		axe	Foxholes	TA 0274	PP	VI	
689		axe	Heslerton	SE 913766	PP	VI	
690		axe	Rudston	TA 112663	PP	greenstone	
691		axe	Rudston	TA 111663	PP	VI	
692		axe	Rudston	TA 111663	PP	VI	
693		axe	Rudston	TA 111663	PP	spotted slate	
694		axe	Rudston	TA 111694	PP	dolerite	
695		axe	Sledmere	SE 969621	PP	VI	
696		axe	Old Malton	SE 806732	RCHM York	VI	
697		axe	Burrythorpe	SE 782657	RCHM York	VI	
698		a-h	Cononley	SD 9847	Skipton A33	XV	
699		axe	Kettlewell	SD 9772	Skipton A37	VI	
700		axe	Dogger Bank	-	Skipton A38a	altered diorite	
701		axe	Dogger Bank	-	Skipton A386	greenstone	
702		a-h	Settle	SD 8263	Skipton A41	dolerite	
703		b-a	Malham	SD 9062	Skipton A51	dolerite	
704		a-h	Pateley Bridge	SE 1565	Skipton D956a	quartz dolerite	
705		b-a	Pateley Bridge	SE 1565	Skipton D9566	ophitic gabbro	
706		a-h	Cowling	SD 9743?	Skipton D1670	XV	
707		cupped pebble	Wad Dale	SE 955720	Hull 300.42.32	XVIII	
708		p-h	Hutton Cranswick	TA 0353	Hull 300.42.42	XVIII	
709		p-h	Norton	SE 8071	Hull 300.42.43	micaceous sandstone	
730		axe	Coulton	SE 6374	Hull 300.42.134	VI	
711		axe	Cold Harbour	-	Hull 300.42.141	VI	
712		axe	Kendale	TA 019600	Hull 300.42.197	VI	
713		axe	Binsdale	TA 1368	Hull 300.42.206	VI	
714		axe	Fimber	SE 9061	Hull 300.42.220	XVIII	
715		axe	Kilham	TA 0664	Hull 300.42.221	VI	
716		axe	Bridlington	TA 1868	Hull 300.42.223	VI	
717		axe	Kirkburn	SE 9855	Hull 300.42.225	VI	
718		axe	Gisborough	NZ 6215	Hull 300.42.227	VI	
719		axe	Binsdale	TA 1368	Hull 300.42.229	VI	
720		axe	Louthorpe	TA 0960	Hull 300.42.230	VII	
721		axe	Carnaby	TA 1465	Hull 300.42.231	XVIII	
722		axe	Bridlington	TA 1868	Hull 300.42.232	VI	
723		axe	Ashby	SE 5904	Hull 300.42.233	VI	
724		axe	Hutton Cranswick	TA 0353	Hull 300.42.234	VI	
725		axe	Cottam	SE 9965	Hull 300.42.235	coarse sandstone	
726		axe	Grindale	TA 1371	Hull 300.42.237	VI	
727		axe	Gransmoor	TA 1259	Hull 300.42.238	VII	
728		axe	Wold Newton	TA 0574	Hull 300.42.245	XVIII	
729		axe	Sherburn Wold	SE 9675	Hull 300.42.246	VI	
730		axe	Watton Carr	TA 0649	Hull 300.42.247	VI	
731		axe	Garton	TA 980585	Hull 300.42.248	altered sandy tuff	
732		axe	North Dalton	SE 9452	Hull 300.42.249	VI	
733		axe	Castle Howard	SE 8270	Hull 300.42.250	I	

No.	ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
734		axe	Haywold	SE 9254	Hull 300.42.255	granodiorite	
735		axe	Seamer	TA 0283	Hull 300.42.256	VI	
736		axe	Wilberfoss	SE 7351	Hull 300.42.257	tuff	
737		axe	Bridlington	TA 1868	Hull 300.42.260	VI	
738		axe	Wilberfoss	SE 7351	Hull 300.42.261	VI	
739		axe	Duggey	SE 8867	Hull 300.42.270	VI	
740		axe	Kilnwick	SE 8350	Hull 300.42.273	VI	
741		axe	Thwing	TA 0571	Hull 300.42.275	altered diorite	
742		axe	Thixendale	SE 8461	Hull 300.42.278	VI	
743		axe	Hunmanby	TA 1077	Hull 300.42.281	VI	
744		axe	Skipsea	TA 1755	Hull 300.42.282	VI	
745		axe	Scarborough	TA 0488	Hull 300.42.288	VI	
746		axe	Garton	SE 9859	Hull 300.42.291	VI	
747		axe	Sledmere	SE 9464	Hull 300.42.292	XVIII	
748		axe	Wayham	SE 8457	Hull 300.42.294	VI	
749		axe	Coulton	SE 635740	Hull 300.42.315	VI	
750		axe	Binsdale	TA 1368	Hull 300.42.316	VI	
751		axe	Bridlington	TA 1868	Hull 360.42.317	quartz diorite	
752		axe	Cottam	SE 9864	Hull 300.42.318	altered sandstone	
753	axe, perf		Old Malton	SE 7972	Hull 300.42.319	sandstone	
754	a-h		Ottringham	TA 2624	Hull 300.42.320	XVIII	
755	axe		Burdale	SE 8762	Hull 300.42.322	XVIII	
756	axe		Ganton	SE 9877	Hull 300.42.325	sandstone	
757	axe		Yedingham	SE 8979	Hull 300.42.328	VI	
758	axe		Ganton	SE 9976	Hull 300.42.333	VI	
759	axe		Cowlam	SE 9666	Hull 300.42.336	VI	
760	axe		Weaverthorpe	SE 9670	Hull 300.42.337	XVIII	
761	axe		Willerby	TA 0176	Hull 300.42.338	tuff	
762	axe		Lowthorpe	TA 0860	Hull 300.42.340	coarse sandstone	
763	axe		Kirby Underdale	SE 8058	Hull 300.42.341	tuff	
764	axe		Beverley	TA 0339	Hull 300.42.345	quartzite	
765	cupped pebble		Nafferton	TA 0560	Hull 300.42.348	granodiorite	
766	axe, perf		Holderness	-	Hull 300.42.349	XVIII	
767	b-a		Burton Agnes	TA 1063	Hull 300.42.350	quartzite	
768	b-a		Cowlam	SE 9666	Hull 300.42.351	coarse sandstone	
769	b-a		Ganton	SE 9877	Hull 300.42.353	olivine diorite	
770	cupped pebble		Willerby	TA 0176	Hull 300.42.354	Porphyry	
771	s-h adze		Poundesworth	TA 023563	Hull 300.42.355	schistose grit	
772	b-a		Sproatley	TA 1934	Hull 300.42.356	ophitic gabbro	
773	cupped pebble		Ganton	SE 9877	Hull 300.42.359	quartzite	
774	b-a		Nafferton	TA 0560	Hull 300.42.360	quartzite	
775	axe		Brown Moor, Thixendale	SE 8461	Hull 300.42.388	VI	
776	axe		Scarborough	TA 0488	Hull 300.42.389	VI	
777	a-h		Sewerby	TA 205690	Hull 54/57	XVIII	
778	axe, fr		Wharram Percy	SE 844643	DOE	VI	
779	axe		Amotherby	SE 7473	BM (63)	XXVI a	
780	axe		Asenby	SE 3975	BM 75 4-3 154	VI	
781	axe		Bedale	SE 2688	BM (59)	sandstone	
782	b-a		Cawton	SE 6476	BM (299)	dolerite	
783	axe		Cayton Carr	TA 0581	BM (61)	tuff	
784	axe		Cowlam	SE 9665	BM 1904 11-12 2	I	
785	b-a		Cowlam	SE 9665	BM 79 12-9 605	dolerite	
786	hone or chisel		Cowlam	SE 9665	BM 79 12-9 636	VI	
787	axe		Crambe	SE 7364	BM (40)	amphibolite	
788	axe		Crambe	SE 7364	BM (60)	XXVI a	
789	axe		Crambe	SE 7364	BM (265)	XXVI a	
790	axe		Crambe	SE 7364	BM (14)	XXVI a	
791	b-a		Flixton	TA 0479	BM (318)	coarse lithic sandstone	
792	b-a		Flixton	TA 0479	BM (313)	amphibolite	
793	p-h		Flixton	TA 0479	BM	coarse greywacke	
794	misc artefact, perf		Flixton	TA 0479	BM (1119)	greywacke	
795	axe		Ganthorpe	SE 8870	BM (284)	VI	
796	b-a		Ganton	SE 9877	BM 79 12-9 107	dolerite	
797	axe		Gilling	SE 6176	BM	XXVI a	
798	b-a		Goodmanham	SE 8842	BM 79 12-9 1175	lithic sandstone	
799	b-a		Holme-on-Spalding	SE 8138	BM 1922 3-7 1	dolerite	
800	axe		Hovingham	SE 6675	BM 75 4-3 155	I	
801	axe, perf		Huggate	SE 8855	BM	XVIII	
802	a-h		Hull	TA 0929	BM (Franks 4279)	dolerite	
803	b-a		Levishan	SE 8390	BM (Trechmann)	XVIII	
804	axe		Melmerby	SE 3376	BM 75 4-3 153	VI	
805	axe		Melmerby	SE 3376	BM (61)	xx	
806	axe		Melmerby	SE 3376	BM 75 4-3 152	VI	
807	axe		Ness	SE 6979	BM	XXVI b	
808	axe		Ness	SE 8979	BM (73)	XXVI a	
809	axe		Newburgh Park	SE 5476	EM (68)	XXVI c	
810	axe		Normandy	SE 7381	BM (54)	XXVI b	
811	axe		Northdale	TA 1571	BM (184)	greenstone	
812	axe		North Holme	SE 3582	BM (86)	XXVI c	
813	axe		Nunnington	SE 6679	BM CC 8.10.70	XXVI a	
814	axe		Nunnington	SE 6679	BM (Monkman 1878)	XXVI a/b	
615	axe		Nunnington	SE 6679	BM (Monkman 1870)	cherty limestone	
616	axe		Nunnington	SE 6679	BM (58)	XXVI a	
817	axe		Nunnlington	SE 6679	BM (70)	XXVI a/b	
818	axe		Nunnington	SE 6679	BM (97)	XXVI a	
819	axe, perf		Nunnington	SE 6679	BM (328)	XXVI c	
820	axe		Pilmoor	SE 4672	BM (70)	altered dolerite	
821	axe		Pilmoor	SE 4672	BM (42)	shelly limestone	
822	axe		Pilmoor	SE 4672	BM (84)	XXVI c	
823	axe		Pilmoor	SE 4672	BM (66)	XXVI b	
824	axe		Raskelf	SE 4971	BM (66)	VIII	
825	axe		Riccall	SE 6237	BM (43)	XV	
826	hone or chisel		Rosedale	SE 7296	BM	XXVI b	
827	axe		Rosedale	SE 7296	BM (47)	XXVI b	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
828		b-a	Rudston	TA 0967	BM 79 12-9 1062	XV	
829		axe	Ruswarp	NZ 8809	BM	VI	
830		b-a	Scalby	TA 0090	BM (316)	dolerite	
831		axe	Sealer	TA 0183	BM (61)	VI	
832		axe	Seamer	TA 0163	BM (179)	VI	
833		b-a	Snainton	SE 9182	BM (325)	XVIII	
834		hone or chisel	Thorpe Salvin	SK 5281	BM (198)	tuff	
835		axe	Thorpe Salvin	SK 5281	BM	VI	
836		axe	Wass	SE 5479	BM (65)	tuff	
837		axe	Wass	SE 5479	BM (67)	tuff	
838		axe	Wass	SE 5479	BM (80)	quartz biotite hornfels	
839		axe	Wath	SE 3277	BM 75 4-3 155	metatuff	
840		axe	West Tanfield	SE 2778	BM 77 1-25 1	greenstone	
841		adze	Whitwell	SE 2899	BM (267)	XXVI a	
842		cupped pebble	Wold Newton	TA 0473	BM (181)	dolerite	
843		axe	Danesdale	-	Preston A62	VI	
844		axe	Watton Carr	TA 0150	Preston A63	VII	
845		axe	Garton Slack	TA 2635	Preston A64	VI	
846		axe	Rudston Parva	TA 0967	Preston A65	flint	
847		axe	Bempton	TA 1972	Liverpool 54.86.90	I	
848		axe	Bempton	TA 1972	Liverpool 54.86.91	greenstone	
849		axe	Grindel	TA 1371	Liverpool 54.86.97	porphyry	
850		axe	Thirkleby	SE 4778	Manchester 26215	VI	
851		axe	Duggleby	SE 8766	Manchester 25728	VI	
852		axe	Whitby	NZ 8911	Manchester 0.2688	VI	
853		axe	Filey	TA 1180	Manchester 25957	tuff	
854		axe	Bridlington	TA 1766	Manchester 25955	IX	
855		b-a	Sheriff Hutton	SE 6566	Preston A76	gabbro	
856		axe	Hutton Conyers	SE 3273	Ripon	VI	
857		axe	Hutton Conyers	SE 3273	Ripon	VI	
858		axe	Kirkby Malzeard	SE 2374	Ripon	VI	
859		axe	Ripon	SE 3171	Ripon	IX	
860		axe	Ripon	SE 3171	Ripon	VI	
861		axe	Eveston	SE 2268	Ripon	IX	
862		axe	Eveston	SE 2268	Ripon	tuff	
863		axe	Eveston	SE 2268	Ripon	VI	
864		axe	Ripon	SE 3171	Ripon	VI	
865		a-h	Wath	SE 3277	Ripon	coarse greywacke	
866		axe	Ravenfield	SK 4895	Doncaster 133.64	coarse tuff	
867		axe	Scawthorpe	SE 5505	Doncaster 279.55	VI	
868		axe	Norton	SE 5415	Doncaster 482.57	VI	
869		axe	Bamburgh Crag	SE 490034	Doncaster 88.77	VI	
870		axe	Tickhill	SK 580936	Doncaster 24.69	VI	
871		axe	Barnby Dun	SE 6109	Doncaster 572.65	I	
872		a-h	Barnby Dun	SE 6109	Doncaster 47.66	XVIII	
873		axe	Doncaster	SE 5803	Doncaster 303X	VI	
874		axe	Doncaster	SE 5803	Doncaster 305X	VI	
875		a-h	Owston Ferry	SE 804023	Doncaster WAC962	sillimanite schist	
876		adze	Doncaster	SE 5803	Doncaster WAC963	VI	
877		axe	Doncaster	SE 5803	Doncaster 304X	VI	
878		axe	Stocksbridge	SK 2598	Sheffield 1981.185	VII	
879		axe	Bramley	SE 2534	Sheffield 1975.535	VII	
880		axe	Laughton	SK 5188	Sheffield 1969.200	VI	
881		p-h	Wortley	SK 3099	Geological Mus FR53	XV	
882		axe	Bridlington	TA 1766	Salford 78.19.5	XVIII	
883		axe	Bridlington	TA 1766	Salford 78.18.5	I	
884		axe	Sheffield	SK 3587	Sheffield J51921-6	greenstone	
885		axe	Sheffield	SK 3587	Sheffield J1926-38	XV	
886		axe	Sheffield	SK 3587	Sheffield J1931-24	XX	
887		axe	Stocksbridge	SK 2598	Sheffield J1932-1	VIII	
888		axe	Ringinglow	SK 2983	Sheffield R79	carbonaceous sandstone	
889		axe	Woodsetts	SK 5483	Sheffield J1933-1	greenstone	
890		b-a	Robin Hood's Bay	NZ 9505	Sheffield J9319	coarse greywacke	
891		axe	Hutton Bushel	SE 9784	Sheffield 25-3-42	VI	
892		axe	Middlesbrough	NZ 475157	PP	XVIII	
893		axe	Conisbrough	SE 513996	PP	I	
894		axe	Conisbrough	SE 513996	PP	VI	
895		axe ?	Conisbrough	SE 513996	PP	chialstolite hornfels	
896		axe	Tanton	NZ 527100	PP	VI	
897		axe	Marton	NZ 5115	PP	VI	
898		axe	Middlesbrough	NZ 5416	Middlesbrough M458/1	VI	
899		r-o axe, ?	Seamer Carr	NZ 482098	PP	XXVI b	
900		axe	Middlesbrough	NZ 545161	Parks Dept, Middlesb	quartz biotite hornfels	
901		m-h	Rudston	TA 0978	BM 83RW/RF	XX	

Lancashire and Cheshire

Cheshire

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1	219	hone	Cheshire	-	pp	altered killas	*
2	916	maul	unlocated	-	pp	andesite	
3		a-h	Pinsley Green, Wrenbury	SJ 587463	Chester 94.P.61	XV	
4		b-a	Tarporley, Peckforton Farm	SJ 540565	Chester 192	greenstone	
5		b-a	Norbury/Bickley	SJ 542474	Chester 46.P.61	XV	
6		a-h	Macclesfield	SJ 914757	Chester CC.301?	XV?	
7		hammer. perf	Macclesfield, Tytherington	SJ 915755	Chester CC.276.1910	XV (fine)	*
8		axe	Acton	SJ 623533	Chester 79.P.55	VI	
9		axe. Cumbrian	Acton Brook	SJ 592745	Chester 24.P.52	VI	
10		axe	Ashton	SJ 506696	Chester 92.P.52	dolerite	
11		axe	Barrow	SJ 4869	Chester 61.P.51	XIII	
12		axe	Chester	SJ 404665	Chester CC.277.1910	jade	*
13		a-h	Coddington	SJ 452553	Chester CC.364A	XV (medium)	
14		axe	Foulk Stapleford	SJ 482632	Chester 191	greenstone	
15		axe	Kingsley	SJ 562762	Chester 63.P.56	VI	
16		axe	Middlewich	SJ 700664	Chester CC.279.1912	VI	
17		axe	Saighton	SJ 440620	Chester CC.284.89	VII	
18		axe	Tarporley	SJ 553625	Chester 37.P.53	VII	
19		axe	Westridge, Birkenhead	SJ 3288	Chester 53.P.56	dolerite	
20		axe	Willaston	SJ 330775	Chester 163.P.67	VI ?	
21		a-h	Alderley Edge	SJ 8678	Chester 37.51	XV (medium-fine)	
22		a-h	Beeston	SJ 5459	Chester 26.P.55	XV (fine)	*
23		a-h	Frodsham	SJ 5177	Chester 48.P.64	XV ? (fine)	
24		a-h	Bexton	SJ 752777	Knutsford Lib	greywacke	
25		a-h adze	Stockport. High Lane	SJ 8989	Stockport L.32.58	XV (medium)	
26		axe	Helsby	SJ 492755	Liverpool 15.10.25	VI	
27		p-h	Appleton. Hill Cliffe	SJ 6383	Warrington 125.21	XV (fine)	
28		a-h	Brinnington. nr Stockport	SJ 906915	Warrington Loan	XV (fine)	
29		a-h	Middlewich. River Croco	SJ 7066	St Helens	XV (medium)	
30		adze. pt perf	Lawton	SJ 820555	Stoke on Trent 11,31	tremolite schist	*
31		a-h	Edge Hall, Malpas	SJ 482503	pp	greywacke	
32		axe	Gawsworth	SJ 894696	pp	flint	
33		axe	Delamere. Kelsall	SJ 536674	Chester 85.P.65	XV (very fine)	
34		cupped pebble	Frodsham, nr Townfield Lane	SJ 528774	pp	greywacke	
35		a-h	Runcorn, Weston Point	SJ 500812	Kuncorn Lib	greywacke	
36		axe	Tranmere. Tranmere Pool	SJ 326882	Liverpool M. 6385	VI	*
37		maul	Alderley Edge	SJ 862782	Hull 300.42.384	augite andesite	
38		net sinker ?	Meols	SJ 2489	Chester CC.206 1893	XV (fine)	*
39		cupped pebble	Agden. Woolstencroft Farm	SJ 723871	Chester 43.P.57	greywacke	
40		misc artefact	WoodPord/Poynton	SJ 9083	Manchester 0.5050	XV (medium-fine)	*
41		s-h adze	Timperley	SJ 797875	Manchester 25935	XV (medium)	
42		a-h	Gatley	SJ 8488	Manchester 0.4830	XV (Pine)	
43		a-h	Macclesfield	SJ 911710	Manchester 25921	XV ? (medium)	
44		a-h	Chelford	SJ 8274	Manchester 0.7898	XV (fine)	
45		axe, Cumbrian	Alderley Edge. Sandle Bridge	SJ 8476	Manchester 25947	VI	
46		axe	Ashley	SJ 7784	Manchester 0.9780	VII	
47		disc	Eddisbury/Delamere	SJ 549701	pp	flagstone (Brathay)	
48		axe	Barnston. Woodcroft	SJ 2883	Liverpool 50.39.34	XV ? (fine)	
49		axe	Rockferry, Birkenhead	SJ 3386	Liverpool 64.158	VII	
50		axe	Noctorum. Birkenhead	SJ 2987	Liverpool 1976.605	VII	
51		a-h	Tranmere. Tranmere Pool	SJ 3187	Liverpool M.6671	XVIII	*
52		axe	Bidston	SJ 2890	Liverpool 1969.219	amphibolite	
53		axe	Burton Point	SJ 303736	Chester 27.P.1975	VI	
54		axe	Buglawton. Congleton	SJ 8763	pp	I	
55		a-h	Congleton area	SJ 8562	pp	XV (very fine)	
56		a-h	Withington	SJ 826718	pp	XV (fine)	
57		a-h	Wilmslow or unlocated	-	pp	x v ?	
58		axe	Great Budworth	SJ 6677	Manchester 25932	VI	
59		maul	Alderley	SJ 8478	Manchester 26212	VI	
60		maul	Alderley	SJ 8478	Manchester 25922	greywacke	
61		maul	Alderley	SJ 8478	Manchester 25930	greywacke	
62		a-h	Alderley Edge Copper Mines	SJ 8478	Manchester 28808?	greywacke	
63		maul	Alderley	SJ 8478	Manchester 0.7597	xv	
64		maul	Alderley Edge Copper Mines	SJ 8478	Manchester 28776	greywacke	
65		axe	Timperley	SJ 7888	Manchester 25937	greywacke	
66		axe	Bollington	SJ 9377	Manchester 26216	VII	
67		maul	Alderley Edge	SJ 8478	Manchester 25928	dolerite	
68		maul	Alderley	SJ 8478	Manchester P 2280(7)	greywacke	
69		axe	unknown	-	Stockport	andesite	*
						ash	

Lancashire

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1	268	axe	Walney Island	SD 1873	Barrow in Furness	VI	*
2	269	axe. fr	Walney Island	SD 1873	Barrow in Furness	VI	*
3	270	axe	Kents Bank, Grange over Sands	SD 3975	Manchester	xx	*
4		a-h	Blackford Bridge	SD 807078	Radcliffe PRE 50/1	XV ? (medium)	
5		a-h	Radcliffe, Radcliffe Bridge	SD 7907	Radcliffe PRE 50/1	XV (fine)	
6		a-h	Layton, Blackpool	SD 317375	Blackpool Lib	xv	
7		a-h	Blackpool. Gas Works	SD 3135	Blackpool Lib	xv	
8		a-h	Eccleston. St Helens	SJ 484955	St Helens	Xv (medium)	
9		a-h	St Helena	SJ 5095	St Helena	XV (very fine)	
10		axe, Cumbrian	Newton-le-Willows	SJ 5995	Warrington RA 11	VI	
11		b-a	Winwick. Warrington	SJ 6092	Warrington RA 2	ashy sediment	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
12		a-h	Lowton, Sand Hop Farm	SJ 6197	Warrington 114.26	XV (fine)	
13		a-h	Deane, Bolton	SD 691061	Warrington RA 15	XIV	
14		disc	Iriam, Ship Canal Works	SJ 728944	Warrington RA 33	XV ? (medium-fine)	
15		misc. spindle whorl	Haydock, Bruche Hall	SJ 5797	Warrington 14	XV ? (very coarse)	*
16		axe	Melling	SD 3900	Liverpool 1970.27	VI	
17		axe, Cumbrian	Staynall-over-Wyre	SD 360468	Preston A 70	VI	
18		axe, Cumbrian	Freckleton	SD 4329	Preston A 71	VI	
19		axe	Goosnargh, Beacon Fell	SD 570430	Preston A 69	VI	
20		axe	Leagram	SD 630445	Preston A 67	VI	
21		axe	Leagram, Little Bowland	SD 632418	Preston A 68	VI	
22		axe	Wimmarleigh, Crookabreast Farm	SD 446469	Preston A 73	VI	
23		s-h adze	Knowsley	SJ 4395	Liverpool 30.63	VI	
24		axe	Pilling	SD 445465	Preston A 75	VI	
25		axe	Pilling	SD 445465	Preston A 74	quartz dolerite	
28		axe	Pilling	SD 436464	Preston A 72	VI	
27		axe	Yealand	SD 505750	Liverpool 54.86.88	VI	
28		axe	Yealand Conyers	SD 503744	Liverpool 54.86.89	tuff	*
29		axe	Thurland Castle	SD 6173	Liverpool 54.86.87	VI	*
30		p-h	Bolton, Queen's Park	SD 705092	Bolton 14.87	quartzite	
31		p-h ?	Silverdale	SD 4675	Bolton 8.83.12/2	greywacke	
32		b-a	Breightmet, Bolton	SD 742097	Bolton A.1.1948	XVIII	
33		a-h	Holcombe	SD 782167	Bolton 14.32	XV (fine)	
34		a-h	River Lune nr Lancaster	SD 4561	Bolton 38	XV ? (medium-fine)	
35		axe, Cumbrian	Egerton, Delph Reservoir	SD 700155	Bolton 43.10.2	VI	*
36		a-h	Blackrod, nr Bolton	SD 616108	Bolton 28a.97	XV (fine)	
37		omitted	-	-	-	-	*
38		omitted	-	-	-	-	*
39		axe, Cumbrian,	Morecambe	SD 460655	Lancaster LM L/19	VI	
40		a-h	Lancaster, Newlands	SD 40615	Lancaster LM 685	flagstone (Brathay)	
41		a-h	Lancaster	SD 476615	Lancaster LM Q/a	XV (fine-medium)	
42		a-h	Lancaster	SD 478615	Lancaster LW 70	XV (fine)	
43		a-h	Lancaster	SD 47815	Lancaster LM 59C	XV (medium)	
44		a-h	Borwick	SD 525732	Lancaster LM 74/1	XV (coarse-medium)	
45		omitted	-	-	-	-	*
46		p-h	Cockerham	SD 467523	Lancaster LW 49	XV?	
47		a-h	Yealand, Mossdale	SD 505745	Lancaster LM 74/2	XV (fine)	
48		a-h	Wray	SD 604676	Lancaster LM '47 336	XV (fine)	*
49		a-h	Dolphinholme, river Wyre	SD 519534	Lancaster LM 286	XV (fine)	*
50		omitted	-	-	-	-	*
51		a-h	Nether Kellet	SD 503683	Lancaster LM 637	XV (fine)	
52		a-h	Altcar, Hill House Fm	SD 343062	PP	XV (fine ?)	
53		axe, Cumbrian	Clitheroe, Up Brook Fm	SD 755422	PP	VI	
54		axe	Rivington Moor	SD 648145	PP	siltstone	
55		a-h	Barton	SD 516363	Preston A 560	XV (fine)	
56		a-h	Woolfold, Bury	SD 785115	Bury	XV	*
57		a-h	Caton Moor	SD 5864	PP	dolerite	
58		axe	Hightown	SO 300035	Liverpool 1975.340	XV (fine)	
59		axe	Whiston	SJ 4791	Liverpool 42.27	I	
60		axe	Toxteth, Parliament Fields	SJ 355875	Liverpool M.6411	VI	
61		a-h	Rartenstall	SD 8224	Manchester 0.7899	dolerite	
62		axe	Moston, Manchester	SD 8701	Manchester 25919	VI	
63		p-h	Manchester, Corporation St	SJ 842988	Manchester 0.4260	XV (fine)	
64		b-a	Northenden	SJ 8290	Manchester 0.4840	XVIII	
65		p-h	Burnage, Manchester	SJ 8692	Manchester 25926	XV (coarse)	
66		a-h	Bickershaw Hall, Abram	SD 6202	Manchester 25931	XVIII	*
67		axe	Warton, near Carnforth	SD 5072	Manchester 0.7898	VI	
68		p-h	Mossley	SD 972014	Manchester 0.5043	quartzite	*
69		p-h	Inglewhite	SD 5440	Manchester 25924	XV (medium)	
70		axe	Dean Clough, nr Blackburn	SD 720335	Bolton A.2.1962	VI	
71		disc	Borland Forest, Stakes Fm	SD 847437	Preston A 96	XV (medium-fine)	
72		a-h	Borland, nr Cow Ark Field	SD 6546	Preston A 81	XV (fine)	
73		a-h	nr Southport	SD 3417	Preston A 83	XV (fine)	
74		a-b	Longridge	SD 6037	Preston A 80	XV (fine)	
75		a-h	nr Chipping	SD 6243	Preston A 79	XV (fine)	
76		a-h	Oxcliffe	SD 4461	Lancaster LM 932/1	flagstone (Brathay)	
77		a-h	nr Conder Green	SD 4656	Lancaster LM 785	XV (medium-fine)	
78		axe	Heysham, 20 Longlands Lane	SD 4161	Lancaster LM 703	amphibolite ?	
79		a-h	Quernmore	SD 518603	Lancaster LM 932/2	XV (medium)	
80		axe	Cliviger, Red Lees	SD 8628	Burnley 1F		
81		a-h	Ogden Clough, nr Burnley	SD 8140	Burnley 19F	XV (medium-fine)	
82		a-h	Weeton, nr Slack House	SD 399335	Lancashire Rec Off	XV (medium-fine)	
83		a-h	Wimmarleigh	SD 4748	Lancashire Rec Off	XVIII	
84		a-h	Barber Bridge	SD 564253	Preston	XV ? (medium)	
85		s-h adze	Preston Dock	SD 515294	Preston A 82	XV ? (medium)	
86		p-h	Chatburn	SD 787441	Blackburn	XV (medium-fine)	
87		axe	Skelmersdale	SD 477058	Lancashire Mus 1977.	VI	
88		axe	Coine area?	-	Lancashire Mus DB 19	intrusive igneous rock	*
89		a-h	CoIne area?	-	Lancashire Mus 1975.	XV (fine)	
90		a-h	Wigan, Walkden Avenue	SD 580055	Wigan 26A 1977	XV (Pine)	
91		s-h adze	Ince-in-Makerfield	SD 590045	Wigan 29A 1977	XV ? (medium)	
92		a-h	Wigan, Bottling Wood	SD 590075	Wigan 21A 1977	XV (very fine)	
93		a-h	Silverdale	SD 4675	Bolton 8.83.12/1	XV (very fine)	
94		axe, Cumbrian	Egerton, Delph Reservoir	SO 700156	Bolton 43.10.1	VI	*
95		axe	Warton Crag, Dog Hole C	SD 490724	Bolton L.5.1967	VI	
96		a-h	Cloughton, nr the Hall	SD 567666	Bolton	XV ? (medium ?)	
97		axe	Pilling, Pilling Moss	SD 405465	Blackpool 102 NSA 4	VII	
98		s-h adze	Pilling, Bradshaw Lane	SD 415462	Blackpool 103 NSA 8	XV ? (medium)	
99		axe	Barnacre, Carse	SD 4747	Blackpool 104 NSA 13	VI	
100		p-h	Tarnacre	SD 4542	Blackpool 100 NSA 9	XV (fine)	
101		a-h	Staynall, Danson's Farm	SD 360438	Blackpool 115 NSA 10	XV ? (medium)	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
102		a-h	Claughton, Hudsbrook Farm	SD 5444	Blackpool 116 NSA 11	XV (fine)	
103		a-h	Pilling	SD 418457	Blackpool 117 NSA 6	XV (fine)	
104		a-h	Claughton, the Sixacre	SD 512432	Blackpool 118 NSA 12	XV ? (fine)	
105		axe	Ribchester	SD 6535	PP	altered dolerite	
106		a-h	Cantsfield, Kirkby Lonsdale	SD 6273	Geological Mus, Lond on ECON 15655	siltstone	
107		axe	Wigan, Boar's Head Rly Sta	SD 577087	Wigan 27A 1977	VI	
108		a-h	Milnrow, Rochdale	SD 930125	Rochdale 90102040/27 11	XV (fine)	
109		b-a	Oakenrod, Rochdale	SD 900138	Rochdale 90104040/13 61	XVIII ?	
110		p-h	Sudden, Rochdale	SD 884117	Rochdale 90104040/13 51	siltstone	
111		a-h	Bleasdale	SD 574455	Clitheroe 547	XV (very fine)	
112		axe	Worston, Clitheroe	SD 768428	Clitheroe 545	IX	
113		axe	Clitheroe area probably	-	Clitheroe 1441	VI	
114		axe	Clitheroe area probably	-	Clitheroe 1353	VI	
115		axe, Cumbrian	nr Sawley, R Ribble	SD 775465	Clitheroe 546	VI	
116		a-h	Scarlsbrick	SD 378135	Rufford Old Hall	XV (fine)	
117		a-h	Tathan, Green Hill Farm	SD 605694	Salford 78.17.5	XV (medium-fine)	
118		axe, Cumbrian	Cadishead, Ship Canal	SJ 710916	Salford 78.22.5	VI	
119		s-h adze	Greenheys, Manchester	SJ 8496	Manchester Art Gall 0.3	quartzite	
120		disc	Kersal Moor	SD 8101	Manchester Art Gall 1909-80/2	ash	
121		a-h	Collyhurst/Harpurhey	SD 854009	Manchester Art Gall 1909-77	siltstone	
122		a-h	Pendle Hill	SD 8041	Skipton A 50	XV ? (coarse-medium)	
123		axe, r-o	Crosby	SJ 315995	Liverpool 1976.83	VI	
124		a-h	Clubmoor, Liverpool	SJ 3893	Liverpool 39.4061	coarse tuff	
125		a-h	Great Altcar, Formby	SD 320065	Liverpool 50.41	flagstone (Brathay)	
126		axe	Carnforth	SD 505707	Lancaster LM.480	ash	
127		a-h	Heaton Chapel	SJ 8692	Manchester 0.798	XV (very fine)	
128		axe	Winton, Eccles	SJ 755988	Manchester 0.3735	VI	
129		axe	Manchester, Hyde Road	SJ 900957	Manchester 25914	VI	
130		axe	Hurstwood, Burnley	SD 8831	Manchester 31759	VI	
131		axe, Cumbrian	Withington	SJ 8593	Manchester 0.5042	VI	
132		a-h	unlocated		Preston	XV	
133		axe	Stockport Road, Manchester	SJ 8893	Manchester 25915	ash	

Notes

Lancashire

Cheshire

No.	Note	No	Note
		1	Fourth Report 268 270, Now in Cumbria (Fell & Davis, this volume)
		2 See above	
		3 See above	
1	Fourth Report 219, record card lacks a full drawing, so the classification is open to doubt	15	A circular flat artefact 64mm in diameter, with a central hour-glass hole
7	An unclassifiable shaft hole implement 180mm long, with a central shaft hole and rounded cross section	27	Dr F S wallis reported on these three section
		28 See above	
		29 See above	
12	Smith 1963 156, no 4	35	One of two fine axes found in 1910 at Delph Reservoir, Egerton, the other being La 94, This one is not faceted
22	exceptionally well shaped for an axe-hammer Said to have been found with two stone axes, now lost (shone 1911, 34 & fig. 9.2)	37	Inadvertently published as LA 37 in Roe 1979 44 See CU 171
30	The rock is near Group IVa, which is Cornish in origin, the implement is an axe or adze to which opposed cup-marks have been added	38	SH 4Z/C consists of two flakes and a core tool, all from the same findspot, and all of ignimbrite Inadvertently published as LA 38 in Roe 1979 44 see CU 59
36	Said to have been found with a Group XVIII axe hammer, Ch 51	45	Inadvertently published as LA 45 in Roe 1979. 44 See CU 48
38	A pebble with a small hour-glass hole hole bored near to one end, not necessarily a net-sinker	48	Mistakenly published as a battle-axe (Roe 1979 42)
		50	Inadvertent published as LA 50 in Roe 1979. 44 See CU 57
40	An irregularly shaped piece of stone 170mm long, with two opposed cup marks	57	Bought from a dealer The findspot is therefore not wholly certain, and the claim that it was found with a burial is assumed to be spurious
51	Said to have been found with Ch 36 (qv)	66	Possibly from Suffolk 1870 75, the donor perhaps coming from Bickershaw Hall Lancashire
69	Although there is a thin section for this axe, no record card has yet been found The rock is an ash, probably thermally metamorphosed, near Group VIII type 8	68	Probably an unfinished pebble-hammer, as the two opposed depressions are rather deeper than those normally found on a cupped pebble
		88	This very large axe, 375 mm long, is not properly provenance, and could be an ethnographic stray.
		94	Facetted, See La 35

Isle of Man

No.	Ser.	Implement	Locality	N.G.R	Accession	Petrology	Note
1	111	axe	Onchan, Glencrutchery	SC 387783	IOMMM 21032A	jadeite	*
2	341	axe	Malew, Ronaldsway	SC 2968	IOMMM 65-1/10	XXV	*
3	342	axe	Malew, Ronaldsway	SC 2968	IOMMM 65-1/7	XXV	*
4	343	axe	Malew, Ronaldsway	SC 2968	IOMMM 65-1/12	tuff	*
5	344	axe	Malew, Ronaldsway	SC 2968	IOMMM 65-1/19	tuff	*
6	365	axe	Santan, Ballavar	SC 3072	IOMMM 2388	VI	
7	366	axe, pt	Andreas/Jurby, Ballachurry	SC 378983	IOMMM 683	VI	
8		axe	Andreas, Curragh Mollagh	SC 401962	IOMMM 65-137	felsite	
9		axe	Malew, Close ny Chollagh	SC 425671	IOMMM 72-60	hornblende	
10		flake	German, Bal lakeighan	SC 2987	IOMMM 71-210/30	VI	
11		axe, pt	German, Knocksharry	SC 275858	IOMMM 1135/34	XXV	
12		omitted	-	-	-	-	*
13		axe, fr	German, Knocksharry	SC 283860	IOMMM 71-309/37	XXV	
14		flake	German, Ballanayre	SC 284664	IOMMM 71-210/39	altered diorite	*
15		omitted	-	-	-	-	*
16		-	-	-	-	-	
17		flake	German, Knocksharry	SC 2785	IOMMM 71-210/44	VI	
18		flake	Get-ran, Knocksharry	SC 283860	IOMMM 71-210/45	XXV ?	
19		omitted	-	-	-	-	*
20		flake	Patrick, Ballacosnahan or German, Knocksharry	SC 257821	IOMMM 71-210/468	altered diorite	
21		omitted	-	-	-	-	*
22		axe	German, Ballagyr	SC 2684	IOMMM 1131/22	XXV ?	
23		axe	German, Ballaquane	SC 2584	IOMMM 1137/26	VI	
24		axe, pt	German, Ballagyr	SC 2684	IOMMM 1129/32	andesite or basalt	
25		axe	German, Staarvey	SC 281844	IOMMM 1132/41	XXV	
26		axe, pt	German, Ballalough	SC 261834	IOMMM 71-179/48	VI	
27		axe, pt	German, The Glebe	SC 265839	IOMMM 71-177/51	greywacke	
28		axe, pt	German, Bellellis	SC 2583?	IOMMM 71-178/52	VI	
29		axe	German, Whitestrand	SC 270858	IOMMM 71-215/57	ashy sediment	*
30		axe	German, Ballagyr	SC 262851	IOMMM 71-180/59	ignimbrite	
31		axe ?, pt	Patrick, Ballacosnahan	SC 257821	IOMMM 71-189/60	micaceous siltstone	
32		axe, pt	Patrick, Ballacosnahan	SC 257821	IOMMM 71-190/61	andesite	
33		axe	Patrick, Ballacosnahan	SC 257821	IOMMM 71-190/63	VI	
34		axe	Patrick, Ballacoanahan	SC 253812	IOMMM 71-216/74	camptonite	
35		flake	German, Bellellis	SC 2583?	IOMMM 71-184/75	ash (thermally metamorphosed?)	*
36		axe, pt	Jurby	SC 39	IOMMM 2802	mudstone	
37		axe, pt	Jurby	SC 39	IOMMM 1396	camptonite	
38		axe, pt	German, Cronk Bane	SC 3086	IOMMM 65-138	VI	
39		axe	Peel	SC 28	IOMMM 584	VI	
40		axe	Andreas, Braust	NX 427007	IOMMM 5217	VI	
41		axe, pt	Ballacowin, German	SC 4184	IOMMM 1306	altered granophyre	
42		a-h	Jurby	SC 39	IOMMM 2801	diorite	
43		axe	Andreas, Ballabeg	SC 4098	IOMMM 1251	camptonite	
44		axe	Patrick, Ballacosnahan	SC 2581	IOMMM 1130/38	camptonite	
45		axe	Rushen, Balnahowe	SC 1868	IOMMM 69-94	andesite	

Notes

No.	Note		
		15 See above	
		16 See above	
		19 See above	
		21 See above	
1	Smith (1963) no 27	28	B K Corlett has recently made Ronaldsway Neolithic finds on an area of Ballawattleyworth known as Bellellison, Bellellis, c SC 253835. However, the original Ordnance Survey records are now derelict 'Bellellis' - SC 322861. The first site is believed to be the more probable
2	Fourth Report nos 341-4; from excavation of Neolithic house at Ronaldsway (Bruce et al 1947)		
3 see above		35 See above	
4 See above			
5 See above			
12	Mapx 12, 15, 16, 19 & 21 stone flakes, rather than archaeological specimens, and therefore omitted		

Cumberland and Westmorland**Cumbria**

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe, fr	Walney Island	SD 1773	Kendal 78/33	VI	
2		axe, fr	Kendal High School	SD 520927	Kendal 79/5	gabbro	
3		axe, fr	Bridge Row, Levens Moss	SD 4785	Kendal 78/32	VI	
4		axe, fr	? Low Levens	SD 4885	Kendal	VI	
5		axe, fr	? Kendal area		Kendal 79/152	andesite	
6		hone ?	Bridge Row, Levens MOSS	SD 4785	Kendal 79/4	sandstone	
7		axe, r-o	Scout Scar, Underbarrow	SD 487921	Kendal 78/31	VI	
8		b-a, fr	no provenance		Kendal 79/1	gabbro	
9		mace	Thorny Hills, Kendal	SD 5292	Kendal 78/34	gabbro	
10		a-h	no provenance		Kendal 79/15	XVIII	
11		a-h	nr Kendal		Kendal 79/16	xv	
12		mace or p-h	Oaks Farm, Loughrigg	NY 342047	Kendal 79/6	sandstone	
13		race or p-h	Shap Quarry	NY 565105	Kendal 79/2	sandstone	
14		axe	Skirwith	NY 815326	Carlisle 27 . 1926 . 313	tuff	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
15		axe	Silecroft	SD 130819	Carlisle 59.1934	tuff	
16		axe	Row Hall, Dearham	NY 084367	Carlisle RF26	sandstone	
17		axe, fr	Rosley	NY 318456	Carlisle 2.1956	andesite	
18		axe, fr	Brough Sowerby	NY 7913	Bowes 1974.5.5H	VI	
19		axe	Lowfield, Bothel	NY 169396	Carlisle 124.1962	XXXIV	
20		axe	Bampton	NY 515182	Carlisle 18.1970.1	XXXIV	
21		axe	Musgrave	NY 766134	Carlisle 21.05.2	VI	
22		axe	no provenance	-	Carlisle A II 24(M4)	VI	
23		axe	Bassenthwaite	NY 221318	Carlisle 52.1970	gabbro	
24		axe	? nr Kendal	-	Kendal 79/23	XVIII	
25		axe, fr	no provenance	-	Kendal 79/57	gabbro	
26		axe ?	Hawkshead	SD 3598	Kendal	andesite	
27		axe, r-o ?	Hawkshead	SD 3598	Kendal 79/46	VI	
28		a-h	Endmoor	SD 5384	Kendal 79/13	XVIII	
29		hammer	no provenance	-	Kendal 79/17	gabbro	
30		a-h	no provenance	-	Kendal 79/18	diorite	
31		a-h	Crook	SD 4694	Kendal 79/10	XV	
32		a-h	no provenance	-	Kendal 79/14	XV	
33		a-h	Kendal area	-	Kendal 79/11	XV	
34		p-h	Penny Hill, Penrith	NY 5632	Penrith	sandstone	
35		a-h	? Skirsgill	NY 5028	Penrith	limestone	
36		axe, r-o	Heversham	SD 501833	pp	VI	
37		axe, fr	Caldbeck	NY 3239	Penrith	gabbro	
38		axe, fr	? Red Hills	NY 4928	Penrith	gabbro	
39		s-h adze	Brigsteer	SD 4889	Kendal 79/20	sandstone	
40		a-h	no provenance	-	Kendal 79/7	XV	
41		a-h	Glen Farm, Nether Staveley	SD 454966	Kendal 79/12	mudstone	
42		a-h	no provenance	-	Kendal 79/9	VI	
43		a-h	no provenance	-	Kendal 79/8	XV	
44		axe, r-o	Hirdwood, Troutbeck	NY 416058	Lancaster LN437/22	VI	
45		axe	Waterson Ground, Hawkshead	SD 350994	Lancaster LW437/10	VI	
46		axe	Wardell Hall, Plumblund	NY 1338	Lancaster LM437/8	VI	
47		a-h	Ireby	NY 2338	Lancaster LM437/6	sandstone	
48		a-h	Ayside, Cartmel	SD 3983	Lancaster LM 437/14	XV	*
49		a-h	Pound Parr, crook	SD 4795	Lancaster LM437/11	XV	
50		net	Birkwray, Outgate	SD 3599	Lancaster LM437/18	XV	
51		a-h	Larkrigg, nr Natland	SD 5188	Kendal	XV	
52		axe	Lindale-in-Cartmel	SD 4180	Lancaster L14	XXXIV	
53		axe	Whitwell Folds, Selside	SD 549983	Lancaster LW437/14	VI	
54		s-h adze	Rawson Lane, Troutbeck	SD 4103	Lancaster LM437/21	XV	
55		s-h adze	Pike How, Troutbeck	NY 412090	Lancaster LM437/20	grit	
56		a-h	Whitbarrow Hill	SD 4486	Lancaster LM 938	XV	
57		a-h	Satterthwaite, Rusland	SD 3392	Lancaster LH437/1	XV	*
58		a-h	Backbarrow	SD 3585	Lancaster LN437/19	XV	*
59		a-h	Allithwaite, Cartmel	SD 3876	Lancaster LM437/9	XV	
60		axe, p-o	Scafell Pike	NY 212074	Kendal	VI	
61		axe, r-o	Pike o'stickle	NY 2707	Kendal	VI	
62		axe, r-o	Troughton Gill, Great Langdale	NY 269076	Kendal	VI	
63		axe, r-o	Scafell Pike	NY 212075	Kendal	VI	
64		flake	Lingwell/Scafell Pike	NY 212075	Kendal	VI	
65		flake	Lingmell/Scafell Pike	NY 212075	Kendal	VI	
66		flake	Loft Crag, Great Langdale	NY 277071	Kendal	VI	
67		axe, r-o	Scafell Pike	NY 213074	Kendal	VI	
68		axe, r-o	Scafell Pike	NY 213074	Kendal	VI	
69		axe, r-o	Scafell Pike	NY 213074	Kendal	VI	
70		axe, r-o	Brown Tongue	NY 200074	Kendal	VI	
71		flake	Shap Quarry	NY 585105	Kendal	IX	
72		axe, r-o	Brown Tongue	NY 200074	Kendal	VI	
73		axe, r-o	Brown Tongue	NY 200074	Kendal	VI	
74		rock	Esk Pike	NY 235076	Kendal	VI	
75		flake	Esk Pike	NY 235076	Kendal	VI	
76		flake	Esk Pike	NY 235076	Kendal	VI	
77		flake	Troughton Gill, Great Langdale	NY 269076	Kendal	VI	
78		flake	Troughton Gill, Great Langdale	NY 269076	Kendal	VI	
79		s-h adze	Aigle Gill, Allonby	NY 119430	Carlisle A II 220	andesite	
80		a-h	?Stainburn, Workington	NY 0229	Carlisle A II 216	XXXIV	
81		race	Garlands, Carlisle	NY 433539	Carlisle A II 223	XXXIV	
82		race	Port Carlisle	NY 241621	Carlisle 62.1971	quartzite	
83		adze	?Rathvale, Pennington	SD 257811	Lancaster LM.77.74	VI	*
84		axe	Ibbotsholme, Troutbeck Bridge	NY 402006	Armitt Lib, Amblesid	VI	
85		axe	Ibbotsholme, Troutbeck Bridge	NY 402006	Armitt Lib, Amblesid	VI	
86		s-h adze	Kirkbampton	NY 309545	Carlisle A II 215	XVIII	
87		a-h	Skelsmergh	SD 522969	Carlisle L43	XV	
88		s-h adze	Scotby	NY 441549	Carlisle A II 221	sandstone	
89		a-h	Grinsdale	NY 3758	Carlisle A II 210	XV	
90		mold	Croglin	NY 574473	Carlisle OM 417	unidentified (ns)	
91		a-h	nr Wigton	NY 255484	Carlisle R.1.	XV	
92		a-h	Ireby	NY 236384	Carlisle R.2	picrite	
93		a-h	Aspatria	NY 146419	Carlisle R.41	XV	
94		a-h	no provenance	-	Carlisle RF.21	sandstone	
95		a-h	no provenance	-	Carlisle RF.24	gabbro	
96		a-h	Bewaldeth	NY 2134	Carlisle RF.25	unidentified (ns)	
97		p-h	nr Penrith	NY 515300	Carlisle 10.1898	sandstone	
98		a-h	Kidburngill, Arieedon	NY 062215	Carlisle 14.1899.5	greywacke	
99		mace	Stanwix	NY 399570	Carlisle 42.1904	greywacke	
100		p-h	Musgrave	NY 766134	Carlisle 21.1905.1	sandstone	
101		a-h	Thomas Close, Skelton	NY 432406	Carlisle 13.1912	greywacke	
102		a-h	Irthington	NY 498616	Carlisle 2.1914	grit	
103		a-h	nr Silloth	NY 1252	Carlisle 37.1916	greywacke	
104		a-h	Temple, Sowerby	NY 611271	Carlisle 34.1921	grit	
105		p-h	Chapel Hill, Wreay	NY 428489	Carlisle 53.1922	basalt	
106		a-h	Whinfell	NY 135253	Carlisle 27.1926.327	sandstone	

N0.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
107		a-h	no provenance	-	Carlisle 27.1926.328	unidentified (ns)	
108		a-h	Kirkbride	NY 230568	Carlisle 27.1926.331	greywacke	
109		p-h	no provenance	-	Carlisle 27.1926.334	gabbro	
110		p-h	no provenance	-	Carlisle 27.1926.336	unidentified (ns)	
111		pestle	no provenance	-	Carlisle 27.1926.339	ash	
112		net sinker ?	no provenance	-	Carlisle 27.1926.340	sandstone	
113		hone	no provenance	-	Carlisle 27.1926.241	sandstone	
114		net sinker	no provenance	-	Carlisle 27.1926.342	mudstone	
115		quoit	Threlkeld Pastures	NY 3224	Carlisle 27.1926.358	altered diorite	
116		b-a	Stanger Farm, Embleton	NY 136276	Carlisle 41.1931	ash	
117		mace or p-h	no provenance	-	Carlisle 25.1933	unidentified (nsl)	
118		a-h	Kirkby Stephen	NY 775088	Carlisle 18.1934	greywacke	
119		hone	Bewcastle	NY 565746	Carlisle 93.1935	andesite	
120		mace	Harraby	NY 4154	Carlisle 19.1944	unidentified (ns)	
121		a-h	Bowness-on-Solway	NY 223627	Carlisle 10.1946.2	sandstone	
122		mace	Workington	NY 9928	Carlisle 89.1949	ash	
123		p-h	Dearham Bridge	NY 069371	Carlisle 62.1950	greywacke	
124		a-h	?Wolsty Bank	NY 100510	Carlisle 69.1950	grit	
125		b-a	Solway Moss	NY 3468	Carlisle 16.1953	epidiorite	
126		a-h	?Cumberland	-	Carlisle 8.1955	sandstone	
127		misc, spindle whorl	Howtown	NY 443196	Carlisle 50.1955	andesite	
128		mace or p-h	?Penrith area	-	Carlisle 40.1960.5	unidentified (ns)	
129		misc, amulet ?	?Penrith area	-	Carlisle 40.1960.6	tuff	
130		a-h	Brougham	NY 583275	Carlisle 119.1961	sandstone	
131		a-h	Gilgarran	NY 032230	Carlisle 83.1962	VI	
132		mace	Skelton/Unthank	NY 4435	Carlisle 61.1963	altered dolerite	
133		hammer	Melkinthorpe	NY 557252	Carlisle 8.1967	gabbro	
134		quoit	no provenance	-	Carlisle 65.1969.2	greywacke	
135		quoit	nr Brigham	NY 099300	Carlisle 59.1970	unidentified (ns)	
136		s-h adze	Greenhead, Dalston	NY 369493	Carlisle 52.1973	XV	
137		p-h or s-h adze	Seaton	NY 0130	Carlisle 108.1977.1	VI	
138		s-h adze	High, Cummersdale	NY 390532	Carlisle 61.1946	XVIII	
139		a-h ?	Austhwaite	NY 170001	Carlisle 118.1977.1	hornfels	
140		a-h	Swarthmoor	SD 2777	Carlisle 118.1977.2	greywacke	
141		a-h	Ulverston	SD 275777	Carlisle 118.1977.3	acid tuff	
142		mace	?Carlisle area	-	Carlisle 65.1969.1	XV	
143		race	Walton	NY 539654	Carlisle 88.1950	unidentified (ns)	
144		rock	Pike of Stickle	NY 2707	PP	VI	
145		axe, r-o, fr	Pike of Stickle	NY 2707	PP	VI	
146		flake	Pike of Stickle	NY 2707	PP	VI	
147		axe, r-o	Drigg	NY 0597?	Carlisle 73.1978.1	VI	
148		axe	Blackfriars St, Carlisle	NY 401557	Carlisle	VI	
149		axe, fr	Blackfriars St, Carlisle	NY 401557	Carlisle	VI	
150		axe, r-o	Blackfriars St, Carlisle	NY 401557	Carlisle	VI	
151		axe, r-o	Brown Tongue	NY 200074	Kendal	VI	
152		axe, r-o	Scafell Pike	NY 212075	Kendal	tuff	
153		flake	Pike of Stickle	NY 2707	Kendal	tuff	
154		axe, r-o	Troughton Gill	NY 269076	Kendal	VI	
155		axe, r-o	Troughton Gill	NY 269076	Kendal	tuff	
156		flake	Pike of Stickle	NY 2707	Kendal	VI	
157		flake	Pike of Stickle	NY 2707	Kendal	tuff	
158		flake	axe-factory (site uncertain)	-	Kendal	VI	
159		axe, r-o	axe-factory (site uncertain)	-	Kendal	VI	
160		a-h	Bridekirk	NY 1133	Leeds/D213.1964	XV	
161		axe	Vale of St Keswick	NY 3122	Leeds/D146.1964	tuff	
162		axe	nr Keswick	-	Birmingham Mus	VI	
163		axe	Cumberland	-	Birmingham Mus	tuff	
164		a-h	Hesket Newmarket	NY 3438	Birmingham Mus	VI	
165		axe	Dry Close Grasmere	NY 344067	PP	VI	*
166		axe	Barbon beck	SD 656828	Lancaster LM681.1	VI	
167		s-h adze	High House Hawkshead	SD 3399	Lancaster LM437/4	tuff	
168		a-h	Bridge End, Woodland	SD 2490	Lancaster LM437/3	XV	
169		a-h	Rosside, Ulverston	SD 273788	Barrow in Furness	XV	
170		axe, fr	Rydal Park	NY 371057	Abbot Hall, Kendal	VI	
171		a-h	Aynsome, Cartmel	SD 3879	Lancaster LM437/12	XV	*
172		axe	?Pike of Stickle	NY 274017	Kendal 79/43	VI	*
173		axe	Low Mill, Beckermest	NY 009079	Carlisle	VI	*
174		axe	Eskdale Green	NY 143002	Carlisle 15-1955.27	tuff	*
175		axe, r-o	Porterthwaite Wood, Miterdale	NY 1401	Carlisle 15-1955.22	tuff	*
176		axe, r-o	Thunacar Knott excavation Great	NY 274081	Brathay Hall, Ambles-	VI	*
			Langdale		ide A1 (lost)		
177		axe, r-o	Thunacar Knott excavation Great	NY 274081	Brathay Hall, Ambles-	VI	*
			Langdale		ide B5 (lost)		
178		axe, r-o	Thunacar Knott excavation Great	NY 274081	Brathay Hall, Ambles-	VI	*
			Langdale		ide B15 (lost)		
179		axe, r-o	Thunacar Knott excavation Great	NY 274081	Brathay Hall, Ambles-	tuff	*
			Langdale		ide B21 (lost)		
180		hammerstone	Thunacar Knott excavation Great	NY 274081	Brathay Hall, Ambles-	tuff	*
			Langdale		ide B22 (lost)		
181		axe	nr Lindal	SD 260760	Barrow-in-furness	tuff	*
					5288		
182		a-h	Harbarrow, Dal ton	SD 255715	Warrington	greywacke	
183		rock	White Borran, Torver	SD 2689	unknown	XV	
184		axe	Leece	SD 247693	Ruskin, Coniston	VI	
185		axe	Casterton, Kirkby Lonsdale	SD 627790	?Skipton D3205	jadeite	*
186		mace	Wood Edge, Beetham	SD 4879	?Birmingham	XV	
187		axe	Highstone Quarry, Scales	SD 2772	Barrow in Furness	VI (ns)	*
					5017		
188		axe, fr	Bonfire Cave, Scales	SD 277722	Barrow in Furness	VI (ns)	*
					?5068		
189		axe	Dendron Fm	SD 246708	Barrow in Furness	VI (ns)	*
					5319		
190		axe	Tummer Hill, Walney Is	SD 176679	Barrow in Furness	VI (ns)	*
					5003		
191		axe	Walney Rd Brickworks, Cocken	SD 193702	Barrow in Furness	VI (ns)	*
					5010		

N0.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
192		axe, r-o	Biggar, Walney Is	SD 193663	Barrow in Furness 5004	VI (ns)	*
193		axe	Sowerby Wood	SD 195724	Barrow in Furness 5012	VI (ns)	*
194		axe	Sowerby Wood	SD 195724	Barrow in Furness 5013	VI (ns)	*
195		axe, r-o	Dane Ave, Barrow	SD 210716	Barrow in Furness 5163	VI (ns)	*
196		axe	North End, Walney Is	SD 179735	Barrow in Furness 5000	VI (ns)	*
197		axe	Walney Channel	SD 190728	Barrow in Furness 5249	VI (ns)	*
198		axe, r-o, fr	Park Rd, Ormsgill	SD 195717	Barrow in Furness 812600	VI (ns)	*
199		axe	High Nibthwaite	SD 294898	Barrow in Furness 5272	VI (ns)	*
200		axe, r-o	Brockholes, Greenscoe	SC 221766	Barrow in Furness BNPC 2	VI (ns)	*
201		axe	nr Roanhead	SD 203759	Barrow in Furness 5021	VI (ns)	*
202		axe	Goldmire Qy, St Helen's Chapel	SD 220741	Barrow in Furness 5283	VI (ns)	*
203		axe	Crag Parm, Egton	SD 305806	Barrow in Furness 741300	VI (ns)	*
204		axe	Soutergate	SD 2281	Barrow in Furness 5011	VI (ns)	*
205		axe	Chapels, Kirkby Ireleth	SD 236838	Barrow in Furness 5036	VI (ns)	*
206		axe, fr	Castle Hill, Pennington	SD 258777	Barrow in Furness 5018	VI (ns)	*
207		axe	Watery Lane, Ulverston	SD 292779	Barrow in Furness 25184	VI (ns)	*
208		axe, fr	Rame Hill, Ulverston	SD 305783	Barrow in Furness 5032	VI (ns)	*
209		axe	Chittery Lane, Ulverston	SD 287791	Barrow in Furness 5273	VI (ns)	*
210		axe	Saltcoats Fm, Ulverston	SD 302776	Barrow in Furness 5317	VI (ns)	*
211		axe	White Ghyll Qy, Bardsea	SD 294751	Barrow in Furness 5039	VI (ns)	*
212		axe, fr	Harbarrow, nr Stainton Hall	SD 2472	Barrow in Furness 5135	VI (ns)	*
213		axe, r-o	Skelmore Heads, Urswick	SD 271755	Barrow in Furness 5286.1	VI (ns)	*
214		axe, r-o	Skelmore Heads, Urswick	SD 271755	Barrow in Furness 5286.2	VI (ns)	*
215		axe, r-o	Skelmore Heads, Urswick	SD 271755	Barrow in Furness 5286.4	VI (ns)	*
216		axe, fr	Urswick	SO 2674	Barrow in Furness U10	VI (ns)	*
217		axe, fr	Urswick	SD 2674	Barrow in Furness U11	VI (ns)	*
218		axe	Holme Farm, nr Flookburgh	SD 375754	Barrow in Furness 5274	VI (ns)	*
219		axe, r-o	Furness	-	Barrow in Furness U8	VI (ns)	*
220		axe, r-o	Furness	-	Barrow in Furness U9	VI (ns)	*
221		axe	Furness	-	Barrow in Furness 5046	VI (ns)	*
222		axe, r-o	Waterblean, nr Millom	SD 176824	Barrow in Furness 831400	VI (ns)	*
223		axe, r-o	Beckriggs, Allonby	NY 0843	Carlisle 40-1960	VI (ns)	*
224		axe	Side Fell, nr Bewcastle	NY 586734	Carlisle 48-1958	VI (ns)	*
225		axe, r-o	Bewaldeth	NY 2134	Carlisle 17-1935	VI (ns)	*
226		axe	Blennerhasset	NY 1741	Carlisle 38-1968-1	VI (ns)	*
227		axe	Kirkland Green, nr Mealsgate	NY 2142	Carlisle 9-1981	VI (ns)	*
228		axe	Isel	NY 1533	Carlisle R,11	VI (ns)	*
229		axe	Anthorn ?	NY 1858	Carlisle 69-1946-1	VI (ns)	*
230		axe, r-o	Anthorn	NY 1958	Carlisle 6-1939	VI (ns)	*
231		axe	Bowness-on-Solway	NY 2262	Carlisle 10-1946.1	VI (ns)	*
232		axe, r-o	Wath, nr Caldbeck	NY 3139	Carlisle 50-1968.1	VI (ns)	*
233		axe	Carlisle ?	NY 3955	Carlisle 20-1980	VI (ns)	*
234		axe	Botcherby, Carlisle	NY 419551	Carlisle 9-1934	VI (ns)	*
235		axe	Botcherby, Carlisle	NY 419551	Carlisle 22-1934	VI (ns)	*
236		axe	Morton Rd, Carlisle	NY 382546	Carlisle 19-1956	VI (ns)	*
237		axe	Orton Rd, Carlisle	NY 377551	Carlisle 27-1967	VI (ns)	*
238		axe, r-o	Clifton, nr Penrith	NY 5326	Carlisle 78-1935.1	VI (ns)	*
239		axe	Staingills Fm, Culgaith	NY 5931	Carlisle 62-1973	VI (ns)	*
240		axe	Skirwith	NY 6232	Carlisle 27-1926.310	VI (ns)	*
241		axe	Skirwith	NY 6232	Carlisle 27-1926.311	VI (ns)	*
242		axe	Skirwith	NY 6232	Carlisle 27-1926.312	VI (ns)	*
243		axe	Skirwith	NY 6232	Carlisle 27-1926.314	VI (ns)	*
244		axe, r-o	High Cummersdale	NY 390532	Carlisle 56-1951	VI (ns)	*
245		axe	Blencow	NY 4532	Carlisle 18-1970.2	VI (ns)	*
246		axe, fr	Heversham	SD 4983	Carlisle 22-1948	VI (ns)	*
247		axe	Abbeytown	NY 1750	Carlisle 22-1898	VI (ns)	*
248		axe, fr	Chapel Moss, nr New Cowper	NY 118454	Carlisle 24-1959	VI (ns)	*
249		axe	Foulsyke, nr Pelutho	NY 1349	Carlisle 6-1898	VI (ns)	*
250		axe	Old Mawbray	NY 0846	Carlisle R 9	VI (ns)	*
251		axe	Mawbray Newtown	NY 0948	Carlisle R 8	VI (ns)	*
252		axe	Mawbray Newtown	NY 0948	Carlisle R 10	VI (ns)	*
253		axe	Mawbray Newtown	NY 0948	Carlisle R 12	VI (ns)	*
254		axe	Mawbray Newtown	NY 0948	Carlisle R 14	VI (ns)	*
255		axe, r-o	Wawbray Newtown	NY 0948	Carlisle R 16	VI (ns)	*
256		axe, r-o	Mawbray Newtown	NY 0948	Carlisle R 18	VI (ns)	*
257		axe	Black Dub, Salta	NY 0844	Carlisle 40-19602	VI (ns)	*

No.	Ser.	implement	Locality	N.G.R.	Accession	Petrology	Note
258		axe	Hunsonby	NY 5835	Carlisle 27-1926.315	VI (ns)	*
259		axe. r-o	Hunsonby	NV 5835	Carlisle 27-1926.316	VI (ns)	*
260		axe	Little Salkeld	NY 5737	Carlisle 76-1946	VI ((ns)	*
261		axe	Little Salkeld ?	NY 5735	Carlisle 13-1982	VI (ns)	*
262		axe	Winskall	NY 5834	Carlisle 27-1926.317	VI (ns)	*
263		axe, r-o	Ainhouse, Irton Pike	NY 1201	Carlisle 54-1947	VI (ns)	*
264		axe, r-o	nr Keswick	NY 2524	Carlisle 28-1944.1	VI (ns)	*
265		axe, r-o	nr Keswick	NY 2524	Carlisle 28-1944.2	VI (ns)	*
266		axe, r-o	Kirkbride	NY 2256	Carlisle 45-1950	VI (ns)	*
267		axe	Kirkby Thore	NY 6325	Carlisle 85-1955	VI (ns)	*
268		axe, r-o	Dolphenby Fm, Edenhall	NY 5731	Carlisle 27-1928.321	VI (ns)	*
269		axe, fr	Lazonby	NY 5539	Carlisle 8-1915	VI (ns)	*
270		axe	Hackthorpe	NY 5423	Carlisle 27-1928.321	VI (ns)	*
271		axe	Maryport	NY 0336	Carlisle R 19	VI (ns)	*
272		axe	Scaley Moss	NY 4363	Carlisle A II 20	VI (ns)	*
273		axe	Railfand	NY 5313	Carlisle 27-1926.319	VI (ns)	*
274		axe	Sockbridge	NY 4926	Carlisle 27-1926.318	VI (ns)	*
275		axe	Lough Fm, Brisco	NV 4251	Carlisle 13-1915	VI (ns)	*
276		axe	Durdar	NY 4051	Carlisle 27-1895	VI (ns)	*
277		axe	Durdar	NY 406512	Carlisle 45-1943	VI (ns)	*
278		axe	East Park, Crofton	NY 3049	Carlisle 36-1952	VI (ns)	*
279		axe	Waterloo Hill, Aglionby	NY 4458	Carlisle 24-1926	VI (ns)	*
280		axe	Old House Fm, Wetheral	NY 465555	Carlisle 41-1956.1	VI (ns)	*
281		axe	Bason Bank, Whigham	SD 1785	Carlisle 2-1935	VI (ns)	*
282		axe	Cumberland	-	Carlisle 5.1928.2b	VI (ns)	*
283		axe	Cumbria "local"	-	Carlisle 33-1946	VI (ns)	*
284		axe	Cumberland	-	Carlisle 18-1951	VI (ns)	*
285		axe	Roadworks, nr Penrith	-	Carlisle 20-1964	VI (ns)	*
286		axe	Cumbria "local"	-	Carlisle 79-1977	VI (ns)	*
287		axe, r-o	Cumberland	-	Carlisle A II 4	VI (ns)	*
288		axe, r-o	Cumberland	-	Carlisle A II 1	VI (ns)	*
289		axe	Lake District	-	Carlisle RF 29	VI (ns)	*
290		axe	Cumbria ?	-	Carlisle 20-1907.2	VI (ns)	*
291		axe, fr	Cumbria	-	Carlisle 15-1955.28	VI (ns)	*
292		axe	High Rigg	NY 3051	Keswick 1	VI (ns)	*
293		axe, r-o	Mossgarth, Portinscale	NY 2422	Keswick 2	VI (ns)	*
294		axe, r-o	Mossgarth, Portinscale	NY 2422	Keswick 3	VI (ns)	*
295		axe, r-o	Mossgarth, Portinscale	NY 2422	Keswick 4	VI (ns)	*
296		axe, r-o	Mossgarth, Portinscale	NY 2422	Keswick 5	VI (ns)	*
297		axe, r-o	Mossgarth, Portinscale	NY 2422	Keswick 52	VI (ns)	*
298		axe, r-o	Mossgarth, Portinscale	NY 2422	Keswick 53	VI (ns)	*
299		axe, r-o	Hesket Newmarket	NY 3438	Keswick 6	VI (ns)	*
300		axe, r-o	Erskine St, Keswick	NY 2823	Keswick 7	VI (ns)	*
301		axe, r-o	Millfield House, Keswick	NY 2623	Keswick 8	VI (ns)	*
302		axe, r-o	Skiddaw Hotel, Keswick	NY 2723	Keswick 9	VI (ns)	*
303		axe, r-o	St Herbert St, Keswick	NY 2723	Keswick 10	VI (ns)	*
304		axe	Battery Hill, Bothel	NY 1937	Keswick 11	VI (ns)	*
305		axe	no provenance	-	Keswick 12	VI (ns)	*
306		axe, r-o	nr Castlerigg Circle	NY 2923	Keswick 15	VI (ns)	*
307		axe, r-o	Jenkin Well, Skiddaw	NY 2727	Keswick 16	VI (ns)	*
308		axe	nr St John's Parsonage	NY 3022	Keswick 17	VI (ns)	*
309		axe	nr Skiddaw	-	Keswick 18	VI (ns)	*
310		axe	Reckow, Vale of St John	NY 3122	Keswick 19	VI (ns)	*
311		axe, r-o	Goatfield, Keawick	NY 2623	Keswick	VI (ns)	*
312		axe	Wythburn, Thirlmere	NY 3213	Keswick 33	VI (ns)	*
313		axe, fr	Pardshaw	NY 0925	Keswick 54	VI (ns)	*
314		axe, r-o	Rampsholme, Derwentwater	NY 263213	Keswick 55	VI (ns)	*
315		axe, fr	Bristowe Hill, Keswick	NV 2624	Keswick 50	VI (ns)	*
316		axe	Barrowmouth, N of St Bees Head	NX 9515	Whitehaven 10-1974	VI (ns)	*
317		axe	Barrowmouth, N of St Bees Head	NX 9515	Whitehaven 9-1974	VI (ns)	*
318		axe	nr Whitehaven	-	Whitehaven 73-1975	VI (ns)	*
319		axe, r-o	Loughrigg Tarn	NY 3404	Armitt Lib Ambleside	VI (ns)	*
320		axe	Ehenside Tarn	NY 003071	B M Christy	VI (ns)	*
321		axe	Ehenside Tarn	NY 003071	B M Christy	VI (ns)	*
322		axe	Ehenside Tarn	NY 003071	B M Christy	VI (ns)	*
323		axe, r-o	Ehenside Tarn	NY 003071	B M Christy	VI (ns)	*
324		axe	Drigg	NY 0600	B M Sturge	VI (ns)	*
325		axe	Langstrath (spelt Langsteth)	NY 2610	B M Christy St.104 Q	VI (ns)	*
326		axe	Great Salkeld	NY 5536	B M Sturge	VI (ns)	*
327		axe	Solway Moss	NV 3408	B M Christy 1857.11.	VI (ns)	*
328		axe	Winder Moor, Flookburgh	SD 3775	B M Christy 1857.11.	VI (ns)	*
329		axe	Conishead Priory	SD 3075	B M Christy 1857.11.	VI (ns)	*
330		axe	Penrith	NY 5130	CUM 51.449	VI (ns)	*
331		axe	Reagill	NY 6017	CUM 51.450 A	VI (ns)	*
332		axe, fr	Reagill	NY 6017	CUM 51.450 B	VI (ns)	*
333		axe	Wigton	NY 2548	Ash 1927.3462	VI (ns)	*
334		axe	Curberland	-	Ash 1927.3453	VI (ns)	*
335		axe, r-o	nr Castlerigg Circle Keswick	NY 2923	Manchester 0.1796	VI (ns)	*
336		axe	Sandy Brow	NY 307473	PP	VI (ns)	*
337		axe, r-o	Williamson's Moss, Eskmeals	NY 082917	Carlisle Mus 9.1986	VI (ns)	*

Cumberland

No.	Ser	Implement	Locality	N.G.R.	Accession	Petrology	Note
1	325	miner's tool	Keswick	NV 2723	Keswick	XV	
2	327	miner's tool	Wigton	NX 4355	Carlisle	greenstone	
3	328	miner's tool	Edenhall, Penrith	NY 5632	Carlisle	greenstone	
4	531	axe, pt	Greycroft, Seascale	NY 033014	Carlisle	VI	
5	556	axe	Ehenside Tarn	NY 003071	BM	VI	
8	557	axe, r-o	Ehenside Tarn	NY 003071	BM	VI	
7	887	axe	Hodbarrow Mine, Millon	SD 180786	Liverpool	tuff	
8	907	flake	Scafell Pike	NY 213071	PP	VI	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
9	908	flake	Scafell Pike	NY 213071	PP	VI	
10	921	flake	Great Gable	NY 211103	PP	XI	
11	922	flake	Great Gable	NY 211103	PP	XI	
12	1045	b-a, fr	Pluampton Wall	NY 496360	Edinburgh Univ	XVIII	
13	112	axe. r-o	Scafell Pike	NY 212075	PP	tuff	
14	113	axe. r-o	Scafell Pike	NY 212072	PP	tuff	
15	1114	flake	Scafell Pike	NY 212072	PP	tuff	
18	1115	axe. r-o	Great End	NY 224086	PP	rhyolite	
17	1141	axe, r-o	Derwentwater	NY 251192	BM	VI	

Westmorland

1	194	axe. r-o	Stake Pass	NY 264095		VI	
2	326	miner's tool	Kendal	SD 5192	Kendal	xv	
3	374	axe. r-o	Pike of Stickle	NY 273073	Carlisle	VI	
4	377	flake	Pike of Stickle	NY 273073	Edinburgh Univ	VIII	
5	378	flake	Pike of Stickle	NY 273073	Edinburgh Univ	VI	
6	425	axe. r-o	Pike of Stickle	NY 2707	Carlisle	VI	
7	426	axe. r-o	Pike of Stickle	NY 2707	Carlisle	VI	
8	427	axe. r-o	Pike of Stickle	NY 2707	Carlisle	VIII	
9	428	axe. r-o	Pike of Stickle	NY 2707	Carlisle	VI	
10	429	flake	Pike of Stickle	NY 2707	Carlisle	VI	
11	430	flake	Pike of Stickle	NY 2707	Carlisle	VI	
12	431	flake	Pike of Stickle	NY 2707	PP	VI	
13	432	flake	Pike of Stickle	NY 2707	PP	VI	
14	438	axe. r-o	Pike of Stickle	NY 2707	Carlisle	VI	
15	439	axe. r-o	Pike of Stickle	NY 2707	PP	VI	
16	440	axe. r-o	Thorn Crag	NY 281068	Carlisle	VI	
17	441	axe. r-o	Pike of Stickle	NY 2707	Carlisle	VI	
18	530	flake	Pike of Stickle	NY 2707	Carlisle	XI	
19	832	axe. r-o. fr	Harrison Stickle	NY 281072	PP	VI	
20	633	flake	Harrison Stickle	NY 282072	PP	tuff	
21	834	flake	Harrison Stickle	NY 281072	PP	VI	
22	835	flake	Pike of Stickle	NY 275073	PP	XI	
23	836	flake	Pike of Stickle	NY 275073	PP	XI	
24	914	axe. r-o	Pike of Stickle	NY 2707	PP	VI	
25	915	axe. r-o	Pike of Stickle	NY 2707	PP	VI	
26	923	flake	Harrison Stickle	NY 2807	PP	tuff	
27	924	axe. r-o. fr	Harrison Stickle	NY 2807	PP	tuff	
28	926	axe. r-o. fr	Pike of Stickle	NY 2707	PP	tuff	
29	970	flake	Pike of Stickle	NY 2707	PP	VI	
30	971	flake	Pike of Stickle	NY 2707	PP	VI	
31	1064	axe	Westmorland	-	Birmingham	IX	

Notes

Cumbria

No.	Note	
48	Wrongly numbered LA 45 in Roe 1979. 44	177 See above
57	Wrongly numbered LA 50 in Roe 1979. 44	178 See above
59	Wrongly numbered LA 38 in Roe 1979. 44	179 See above
83	Possibly ethnographic	180 See above
165	Sectioned at the Geological Survey and Museum. (CW 2. 63. 281 and 50. 8-9)	181 Possibly ethnographic sectioned at the Geological Survey and Museum (CW 2. 71. 10)
171	Wrongly numbered LA 37 in Roe 1979. 44	185 Proc Prehist Soc. 43 (1977) 287-93. no 99
172	Engraved with the figure of a deer the authenticity of the engraving is doubtful (CW 2. 80 53 -5)	187 Stone implements from Cumbria that appear to be of Group VI. or related tuff, on macroscopic examination
174	Sectioned at the Geological survey and Museum (CW 2. 63. 281 end 50. 8- 9)	188-327 See above
175 See above		328 The findspot is sometimes given as 'near Holker Hall', but an old label on the implement says 'Winder Moor'
176	From excavations at a chipping site. 1969-70 CW 2. 73 (1973) 25-46 The finds. deposited at Brathay Hall Field Studies centre. Ambleside. appear to have been lost.	329 Stone implements from Cumbria that appear to be of Group VI. or related tuft. on macroscopic examination
		330-7 See above

North-east England**Durham**

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		b-a	nr Heathery Burn	NY 9941	unknown	XVIII	*
2		a-h	Blackhall Mill	NZ 122569	Newcastle 1973.3	XV	
3		a-h	Scots Dyke between Ingleton and Headlam	NZ 1819	Newcastle 1933.38	XXVII	
4		a-h	Felling, Nest House Est	NZ 271625	Newcastle 1938.18	XVIII	
5		axe	Hansteels, Lanchester	NZ 1744	Newcastle 1914.11	VI	
6		axe	Rookhope	NY 9443	Newcastle 1920.4	greenstone	
7		axe	Whickham, Beech Grove	NZ 2061	Newcastle 1917.4	VI	
8		axe	Witton Gilbert	NZ 2345	Newcastle 1915.4	VI (ns)	
9		misc artefact, wais-	West Chilton	NZ 2830	Newcastle 1961.8	basalt	*
10		a-h	Whickham	NZ 207601	Newcastle 1899.2	XVIII	
11		axe	Sunderland	NZ 386580	Sunderland 30-1789: F 2598	near XXVIII (dolerite)	
12		axe	?South Shields area	-	Sunderland C 3673	VI	*
13		axe	Sunderland, Fulwell Qy,	NZ 391597	Sunderland 159-1972; F 2604	VI	
14		axe	Esh Winning	NZ 197421	Sunderland 12-1934: G 5945	tuff	
15		axe	nr Washington	NZ 304583	Sunderland 151-1966: F 2589	XVIII	
16		a-h	Roker Beach, Sunderland	NZ 408591	Sunderland 221-1974; F 2618	XV	
17		mace, cushion	North Hylton	NZ 3457	Sunderland 47-1955.2; F 2597	XXVII	
18		axe	Bowlees nr Gibson's Cave	NY 908289	Bowes Mus 1958.1810	I	
19		axe	Rogerwell Hush, Shittlehopeside, Stanhope	NZ 004399	Bowes Mus 1958.1809	VI	
20		s-h adze	Heathery Burn	NY 846420	Bowes Mus 1958.1808	XVIII	
21		axe	Crook, Duffold	NZ 171362	Bowes Mus 1958.1800	fine grained yellow quartzite (ns)	
22		axe	Toronto	NZ 1930	Bowes Mus 1958.1799	VI	
23		p-h	Weardale (?)	-	Bowes Mus 1958.1795	XV	
24		b-a	Stanhope, Crawley Edge	NY 000397	Bowes Mus 1958.1794	XV	
25		b-a	Darlington-Stockton rly	-	Bowes Mus 1975.58	XV	
26		axe	Tow Law	NZ 119388	Bowes Mus 1975.89	greenstone	
27		a-h	Redworth	NZ 2423	Bowes Mus 1945.3.57	XVIII	
28		axe	Sunderland, Doxford Pk	NZ 3752	pp	XXVII	*
29		axe	Langdon Beck	NY 837304	pp	amphibolite	*
30		p-h	Frosterley, Milne House	NZ 024361	BM unreg	dolerite (ns)	
31		p-h	Wolsingham, Coves House	NZ 053363	BM Sturge 468	quartzite (ns)	
32		a-h	Sunderland, Millfield	NZ 3857	BM Sturge 295	XVIII	
33		axe	Cawhill	NY 8540	BM unreg	VI (ns)	
34		axe	Eggleston, Blackton mill	NY 998257	BM 1964.12-6.897	VI	
35		axe	St John's Chapel	NY 8838	BM unreg	XVIII	
36		axe	Sherburn House	NZ 308415	BM unreg	greenstone	
37		axe	Hartlepool	NZ 5132	Hartlepool 6.63	amphibolite (ns)	
38		axe, fr	Hartlepool, Lunley St	NZ 529337	(Hartlepool)	VI (ns)	*
39		axe	Rogerley Quarry	NZ 025383	Bowes Mus 1958.1806	tuff	
40		mace, pestle	Redgate Head	NZ 089381	Bowes Mus 1979.11	basic hornfels	
41		a-h	Stonechester	NZ 180365	Bowes Mus 1979.43	XVIII	
42		axe or adze	R Tees nr Middleton	NY 9425	Bowes Mus 1964.2	dolerite (ns)	
43		a-h	Eggleston	NZ 0023	Bowes Mus 1958.1827	XVIII	

Northumberland

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Yeavinger	NT 925305	unknown	tuff	*
2		hammer, pt perf	Kirkwhelpington, Glebe	NY 9984	Newcastle 1939.12	dolerite (ns)	
3		axe	Felton, Hazon Fm	NU 163044	Newcastle 1950.6(?)	XXVII	
4		a-h	Haydon Bridge or Housesteads	NY 8464	Newcastle 1973.1	XVIII	*
5		axe, fr	Rothbury	NU 0501	Newcastle 1932.14.2c	VI	
6		s-h adze	Low Burradon Fm	NT 979058	Newcastle 1932.14.3	basalt	
7		mace, pt perf	Kirkwhelpington	NY 9984	Newcastle 1956.314A	quartzite (ns)	
8		a-h	Hexham/Corbridge area	NY 96	Newcastle 1965.3	XVIII	
9		miner's tool	?Northumberland	-	Newcastle 1972.23.I	XXVIII	
10		miner's tool	?Northumberland	-	Newcastle 1972.23.II	quartz diorite	
11		axe	nr Cambo	NZ 0285	Newcastle 1987.8	VI	
12		a-h	North Sunderland, Pasturehill Fm	NU 195306	Newcastle 1945.1	near XVIII	
13		mace, cushion	Northumberland	-	Newcastle 3932.71	XVIII	
14		mace, cushion	Hallington	NY 9875	Newcastle 1932.70	mudstone (ns)	
15		misc, weight ?	Harbottle, R Coquet	NT 9304	Newcastle 1893.6	amygdaloidal andesite (ns)	*
16		a-h	Felton, Swat-land East Hall	NU 169022	Newcastle 1957.3A	XVIII	
17		axe	Bardon Mill, Thorngrafton	NY 778853	Newcastle 1960.39	altered andesite	*
18		misc, weight ?	Warkworth, Southside Fm	NU 216061	Newcastle 1933.7	greywacke (ns)	
19		axe	?Corbridge area	NY 9864	Newcastle 1949.5	metabasalt	
20		a-h	West Rattenraw Fm	NY 830643	Newcastle 1958.93A	altered porphyry	
21		axe	Kyloe Crags	NU 0439	Newcastle 1929.21	ophitic olivine dolerite	
22		a-h	North Charlton, Browneside Moor	NU 1623	Newcastle 1939.10	near XXVII (greywacke)	
23		axe	Corbridge	NY 987652	Newcastle 1978.21	altered dolerite	
24		axe	Sewingshields	NY 809699	Newcastle 1978.19	tuff	
25		axe	West Hallington, reservoir	NY 9676	Newcastle 1932.65	tuff	
26		axe	Chevington Wood, West Chevington	NZ 2298	Newcastle 1934.3	VI	
27		axe	Fowberry Tower, Chatton	NU 039293	Newcastle 1949.3	XXVII	
28		axe	Shaw Fm, Bellingham	NY 830836	Newcastle 1865.2	VI	

No.	Ser.	Implement	Locality	N.G.R	Accession	Petrology	Note
29		axe	Longhorsley	NZ 1494	Newcastle 1938.2	VI	
30		axe	Rothbury	NU 0501	Newcastle 1932.14.2b	VI	
31		axe	Kyloe Crags	NU 0439	Newcastle 1929.18	VI (ns)	
32		axe	Westerhope	NZ 195667	Newcastle 1926.16	VI	
33		a-h	Edgewell, Prudhoe	NZ 088620	Newcastle 1891.3	XVIII	
34		a-h	Chesterhill, Felton	NU 162041	Newcastle 1944.9	XXVII	
35		axe	Housesteads	NY 790689	Newcastle 1956.151. 32A	VI (ns)	
36		axe	Low Burradon Fm	NT 979058	Newcastle 1932.14.2A	XXVII	
37		axe	Corbridge	NY 9964	Newcastle 1937.9	VI	
38		axe	Longframlington	NU 1301	Newcastle 1932.79	VI	
39		axe	Lowick, Bowsden Moor	NT 9942	Newcastle 1933.1	VI (ns)	
40		axe	Holy Island	NU 1241	Newcastle 1926.13	near XXVI	
41		axe	Longframlington	NU 1301	Newcastle 1938.5	XVIII	
42		axe	Chevington Moor West Chevington	NZ 2297	Newcastle 1956.91.1. A	VI	
43		axe	Felton. Lanehead	NU 174027	Newcastle 1932.76	XXVII	
44		axe, fr	Woodburn	NY 8986	Newcastle 1932.69	XXIV	
45		axe, fr	Warkworth Moor	NU 2304	Newcastle 1921.8	basalt	
36		axe, fr	Kyloe Crags	NU 0439	Newcastle 1929.20	XXVII	
47		axe	Edlingham, Lemmington Hillhead	NU 106107	Newcastle 1934.26	biotite cordierite hornfels	
48		axe	Earsdon	NZ 322725	Newcastle 1932.89	XXVII	
49		axe	West Woodburn	NY 8986	Newcastle 1948.10	VI	
50		axe	Lilburn Grange Fm	NU 033249	Newcastle 1949.1	greenstone (ns)	
51		axe	Otterburn, Percy's Cross	NU 877937	Newcastle 1956.97	VI	
52		axe, pt	Newton-on-the-Moor	NU 1705	Newcastle 1932.78	VI	
53		axe	nr Chatton	NU 0528	Newcastle 1932.77	VI	
54		axe	Warkworth, Low Buston	NU 223075	Newcastle 1932.88	V I	
55		axe	Framlington Old Pit, Longframli- ngton	NU 1100	Newcastle 1933.20	VI (ns)	
56		axe	Blenkinsopp	NY 6664	Newcastle 1948.9	near XXVIII (quartz gabbro)	
57		axe	Throckley Fell	NZ 147665	Newcastle 1814.11	VI	
58		axe	Kyloe Crags	NU 0439	Newcastle 1929.19	VI	
59		miner's tool	Greenleighton	NZ 027920	Newcastle 1960.45	igneous rock	
60		a-h	Corbridge, Hill St	NY 989645	Newcastle 1981.5	XXVII	
61		b-a	Newcastle, Barras Bridge	NZ 249650	Newcastle 1904.6	altered granodiorite	
62		mace	Fairley Fm, nr Wallington	NZ 005889	Newcastle 1975.22	amphibolite (ns)	
63		s-h adze or weight	Corbridge, River Tyne	NY 9964	Newcastle 1946.7	unidentified	
64		a-h	Gunnerton qy, Barrasford	NY 9174	Newcastle 1942.10	greywacke	
65		axe	Longhoughton, Ratcheugh Fm	NU 231151	Alnwick Castle 36A	XXVII	
66		hammer, waisted	Percy's Leap, Hedgeley Moor	NU 044199	Alnwick Castle 130	quartzite (ns)	
67		axe	Rothbury	NU 0501	Alnwick Castle 31	IX	
68		axe	Beadnell Annstead Fm	NU 2329	Alnwick Castle 34	Cuff	
69		axe	?Alnwick area	NU 1813	Alnwick Castle 32	VI (ns)	
70		axe	East Thirston Moor	NZ 1999	Alnwick Castle 30	VI (ns)	
71		axe	?Alnwick area	NU 1813	Alnwick Castle 36	XXVII	
72		axe	Gallowlaw Moor, Beanley North Fm	NU 0618	Alnwick Castle 39	VI (ns)	
73		axe	Alnwick, Denwick Lane	NU 1913	Alnwick Castle 35	VI (ns)	
74		axe	Northumberland		Alnwick Castle	VI (ns)	
75		a-h	Burradon, East Bank	NT 9806	Alnwick Castle 89	XXVII	
76		a-h	Northumberland		Alnwick Castle 87	XXVII	
77		a-h	Doddington	NT 9932	Alnwick Castle 88	quartz gabbro	
78		a-h	Shilbottle Deanmoor Fm	NU 179089	Alnwick Castle 91	XXVII	
79		a-h, pt perf	Alnmouth, nr Hipsburn	NU 235109	Alnwick Castle 90	XVIII	
80		axe, fr	?Berwick area		Berwick (formerly Wo oler 1980.11)	XXVII	
81		axe, waisted	nr Berwick	NT 9953	Berwick (formerly Wo oler 1980.9)	XXVII	
82		axe	?Berwick area		Berwick (formerly Wo oler 1980.7)	tuff	
83		axe	Chapel Hill		Berwick (formerly Wo oler 1980.8)	VI	
84		axe	unknown		pp formerly Wooler		
85		axe	Great Bavington	NY 9880	Newcastle 1932.67	IX	
86		axe ?	Whalton, The Glebe	NZ 134819	Newcastle 1926.15	ironstone	
87		axe	Elsdon, Grasslees Mill	NY 951976	Newcastle 1932.68	VI (ns)	
88		axe	Fawcett, Colwell	NY 966765	Newcastle 1932.66	VI (ns)	
89		axe	nr Goswick	NU 0545	Newcastle 1936.12	near I	
90		axe	Kyloe, Cockleman's Qy	NU 056408	Newcastle 1964.3	XXIV	
91		axe	Felton, Mouldshaugh Fm	NU 195010	Newcastle 1975.16	XVIII	
92		axe	Caistron. nr R Coquet	NT 995012	Newcastle 1964.9	VI (ns)	
93		axe	Holywell	NZ 3174	Newcastle 1963.8	VI	
94		axe	Foumart Knowe	NU 112246	Newcastle 1973.7	VI	
95		axe	Foumart Knowe	NU 112246	Newcastle 1973.7a	VI	
96		axe	Hawkhill Fm, Lesbury	NU 216124	Newcastle 1978.1	VI	
97		axe	Bells Burr	NY 6194	Newcastle 1971.9	VI	
98		axe	Edlingham	NU 114060	Newcastle 1977.1	VI	
99		axe	Loansdean, Morpeth	NZ 1984	Newcastle 1960.7	VI	
100		axe	Kennel Hall Knowe	NY 667898	Newcastle 1979.26A	VI	
101		p-h	Belford	NU 1034	BM Sturge 308	dolerite (ns)	
102		a-h	Corbridge	NY 9864	BM 1911.10-25.55	XVIII	
103		b-a	Seghill	NZ 2874	BM Sturge 470	quartzite (ns)	
104		mace, ovoid	Twizell, Norham	NT 8843	BM unreg	dolerite	
105		axe	S of Allendale	NU 8452	BM 1964.12-6.896	metabasalt	
106		axe	Bolton	NU 1013	BM Sturge 31	VI	
107		axe	Alnwick Moor		BM Sturge 403	XX	
108		axe	Branton	NU 0416	BM Sturge 27	VI	
109		axe	Chevington Wood, rly	NZ 2296	BM Sturge 21	VI (ns)	
110		axe	Boulmer	NU 2614	BM Sturge 32	VI	
111		axe	Burradon	NZ 2772	BM unreg	coarse tuff	
112		axe	Doddington	NT 9932	BM unreg	VI	
113		axe, fr	East Lilburn	NU 043235	BM Sturge 23	VI (ns)	
114		axe	Gunnerton Fell	NY 9074	BM Sturge 37	VI	

N0.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
115		axe	Sharperton. Wolferslaw	NT 955047	BM unreg	VI (ns)	
116		axe	Halton Chesters	NY 998685	BM Sturge 38	altered acid tuff	
117		axe	Harwood	NZ 0090	BM unreg	VI	
118		axe	Little Houghton	NU 230165	BM unreg	VI	
119		axe	Nether Witton	NZ 1090	BM unreg	VI (ns)	
120		axe	Ponteland	NZ 1672	BM unreg	VI (ns)	
121		axe	Potts Durtrees. Redewater	NV 873975	BM unreg	VI	
122		axe	Ilderton. Rocky Heddon	NU 0121	BM unreg	VI	
123		b-a	Holystone	NT 9502	BM Sturge 471	XVIII	
124		axe	Ponteland	NZ 1672	BM unreg	VI	
125		axe	Todstead. Brinkburn	NZ 125990	BM unreg	near XVIII	
126		axe	Hepburn, Hepburn Fm	NU 069245	PP	andesite	
127		axe	Morpeth	NZ 1986	Morpeth, Chantry Mus	VI	

Notes

Durham

No.	Note
1	Evens at al. 1962. 262. no 981
9	Described in the Museum display as a 'mining tool'; cf Nd 9. Nd 10. Nd 59
12	Formerly in South Shields Public Museum; not listed in Miket 1984 This is not the axe from South Shields Roman Port (Miket 1964. 80)
28	Miket 1984. 71-2. fig 24 8
29	Information from Dennis Coggins. Bowes Museum
38	Fragment found during processing of medieval material from this site Currently in the Department of Archaeology. University of Durham

Northumberland

No.	Note
1	Evens et al 1962. 263 no 1046 Not mentioned in B Hope Taylor 'Weaving. an Anglo-British centre of early Northumbria. 1977 though the CBA record card states that it emanates from the palace site Present whereabouts unknown
4	If findspot is Housesteads NCR is NY 790669
15	Perforate circular objects
18	see above
57	Alternative NGR is NZ 150676
83	Location of Chapel Hill unknown but presumed to be near Berwick
84	Information via R Miket. Tyne and Wear Service
111	Alternative NGR is NT 9806

Scotland

Abbreviations

Museums and journals

Please note that the present list is an amalgamation of two separate sources, which sometimes use different abbreviations for the same museum; in these cases both abbreviations are given.

AAG	Aberdeen Art Gallery and Museum
Aberd	Aberdeen University Anthropological Museum
BM	British Museum, London
Carl	Carlisle Museum and Art Gallery
DES	Discovery and Excavation in Scotland, Council for Scottish Archaeology
Dmfs	Dumfries Museum
GAGM	Art Gallery and Museum, Kelvingrove, Glasgow
Hawick	Hawick Museum and Art Gallery
Hunt/	Hunterian Museum, University of Glasgow
Hunterian	
Kelv	Glasgow Art Gallery and Museum, Kelvingrove
Kilm	The Dick Institute, Kilmarnock
Kirk	The Stewartry Museum, Kirkcudbright
NMAS	National Museum of Antiquities of Scotland, Edinburgh
Paisley	Paisley Museum and Art Gallery
PbIs	Tweeddale Museum, Peebles
Perth	Perth Museum and Art Gallery
PPS	Proceedings of the Prehistoric Society
PSAS	Proceedings of the Society of Antiquaries of Scotland
Smith AGM	Smith Art Gallery and Museum, Stirling
Stewartry	Stewartry Museum, Kirkcudbright
Mus	
Stirling	Stirling Smith Art Gallery and Museum, Stirling

Stran	Wigtown District Museum, Stranraer
TDGAS	Transactions of the Dumfriesshire and Galloway Natural History and Antiquarian Society
Whithorn	Whithorn Priory Museum

Typological Groups

Battle-axes

E	Early
I-D	Intermediate-Developed
NV	Northern Variant
NVEee	Northern Variant with extreme expansion of the blade
U	Unclassified category
ig	decorated with incised grooves

Axe-hammers

I	Class I
II	Class II
U	Unclassified category
0400	

All implements

(u)	unfinished

Aberdeenshire

No.	Ser	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe, broken	Oldcraig, Daviot	NJ 735295	Hunterian B 1914.105	quartz dolerite	
2		axe	Knockleith, Auchterless	NJ 703404	Hunterian B 1914.98	metamorphosed siltstone	
3		axe	Knockleith, Auchterless	NJ 703404	Hunterian B 1914.97	garnet hornblende chlorite schist	
4		axe	Auchterless	NJ 7141	Hunterian B 1914.98	metamorphosed sandstone	
5		axe	Auchterless	NJ 7141	Hunterian B 1914.99	muscovite biotite gneiss	
6		axe, broken	Carpenter's Craft, Craigsfordma- ins, Bourtie	NJ 772244	Hunterian B 1914.100	andalusite sericite magnetite schist	
7		axe, broken	Hillhead, Bourtie	NJ 793248	Hunterian B 1914.101	XXXII	
8		axe	Sunny Brae, Bourtie	NJ 7925	Hunterian B 1914.102	amphibolised quartz basalt	
9		axe	Glack House, Daviot	NJ 7528	Hunterian B 1914.105	XXXII	
10		axe, fr	Insch	NJ 6328	Hunterian B 1914.107	metamorphosed arkose	
11		axe	Dinnet	NO 460987	Hunterian B 1914.105	sericitised igneous rock	
12		axe	Ellon	NJ 9530	Hunterian B 1914.106	cordierite hornfels	
13		axe	Cunglass, Inverurie	NJ 7721	Hunterian B 1914.108	XXXII	
14		axe	Methlick	NJ 8537	Hunterian B 1914.109	hornblende feldspar quartz schist	
15		axe	Pitsligo	NJ 9366	Hunterian B 1914.110	muscovite biotite granite	
16		axe	Pitsligo	NJ 9366	Hunterian B 1914.111	muscovite biotite granite	
17		axe	Cushieston, Rayne	NJ 710305	Hunterian B 1914.112	biotite quartz hornfels	
18		axe	Tocherford, Rayne	NJ 696330	Hunterian B 1914.113	XXXII	
19		axe	Millbuie, Skene	NJ 795092	Hunterian B 1914.114	porphyritic basalt	
20		axe	Strathdon	NJ 3512	Hunterian B 1914.115	quartz dolerite	
21		axe	Upper Towie	NJ 442111	Hunterian B 1914.116	quartz bostonite	
22		axe, broken	Carpenter's Croft, Collyhill	NJ 771243	Hunterian B 1914.196	XXXIII	
23		axe	Bourtie			quartz basalt	
24		axe	Lochend, Barra, Bourtie	NJ 785254	Hunterian B 1951.19	XXXII	
25		axe	Bourtie	NJ 7925	Hunterian B 1951.23A	porphyritic basalt	
26		axe	Sunnybrae, Bourtie	NJ 802236	Hunterian B 1951.56	cordierite hornfels	
27		axe	Buchan	NJ 9449	Hunterian B 1953.60	quartz feldspar hornfels	
28		axe	Buchan	NJ 9449	Hunterian B 1951.61	porphyritic quartz basalt	
29		axe	Harlaw, Chapel of Garioch	NJ 7424	Hunterian B 1951.84	XXXII	
30		axe	Stones Farm, Cruden	NK 049363	Hunterian B 1951.95	XXXII	
31		axe	Stones Farm, Cruden	NK 049363	Hunterian B 1951.95A	XXXII	
32		axe	Cruden	NK 0437	Hunterian B 1951.96A	altered quartz dolerite	
33		axe	Cruden	NK 0437	Hunterian B 1951.96B	sericitised quartz trachyte ?	
34		axe	Blair, Fintray	NJ 841204	Hunterian B 1951.115	XXIV	
35		axe	Cairnhill, Keithhall	NJ 810197	Hunterian B 1951.140	muscovite andalusite hornfels	
36		axe	Hallforest, Kintore	NJ 777153	Hunterian B 1951.151	XXIV	
37		axe, broken	Johnston, Leslie	NJ 580249	Hunterian B 1951.167	biotite muscovite sillimanite schist	
38		axe	Leslie	NJ 5924	Hunterian B 1951.171	feldsparphyric felsite	
39		axe	Leslie	NJ 5924	Hunterian B 1951.172	XXXIII	
40		axe	Leslie	NJ 5924	Hunterian B 1951.173	quartz dolerite	
41		axe	Boggach, Strathdon	NJ 321085	NMAS AF 97	IX	*
42		axe	Aberdeenshire	-	NMAS AF 102	IX	
43		axe	Old Deer	NJ 9747	NMAS AF 113	IX	*
44		axe	Aberdeenshire	-	NMAS AF 281	IX	
45		axe	Aberdeenshire	-	NMAS AF 348	IX	
46		axe, broken	Huntly	NJ 5239	NMAS AF 383	IX	
47		axe	Benachie, Chapel of Garioch	NJ 6622	NMAS AF 400	IX	
48		axe	Mintlaw	NJ 9948	NMAS AF 401	IX	
49		axe	Buchan district	NJ 9449	NMAS AF 554	IX	
50		axe	Buchan district	NJ 9449	NMAS AF 557	IX	
51		axe	Aberdeenshire	-	NMAS AF 675	Text	
52		axe	Parkhill, Lumphanan	NJ 5804	NMAS AF 742	IX	
53		axe	Alford	NJ 5716	GAGM '55-96mk	IX	
54		axe	Glen of Foudland	NJ 6034	Inverurie AF 1	greywacke	
55		axe	Fingask, Daviot	NJ 7727	Inverurie AF 2	XXIV	
56		axe, broken	East Selbie, Keithhall	NJ 8022	Inverurie AF 3	XXIV	
57		axe	Ardtannes, Inverurie	NJ 763202	Inverurie AF 4	XXIV	
58		axe	Aberdeenshire	-	Inverurie AF 5	tuff	
59		axe	Lower Ingleston, Keithhall	NJ 7922	Inverurie AF 8	metamorphosed siltstone	
60		axe	Drumgesk, Aboyne	NO 5599	Inverurie AF 9	biotite quartz sillimanite gneiss	
61		axe	Aberdeenshire	-	Inverurie AF 11	albite epidote hornblende epidiorite	
62		axe	Inverurie	NJ 765220	Inverurie AF 12	quartz chlorite sericite schist	
63		axe	Ardtannes, Inverurie	NJ 763202	Inverurie AF 14	XXIV	
64		axe	Aberdeenshire	-	Inverurie AF 15	XXXII	
65		axe	Damhead, Pitcaple, Chapel of Garioch	NJ 731264	Inverurie AF 16	metamorphosed greywacke	
66		axe	Lower Ingleston, Keithhall	NJ 7922	Inverurie AF 17	amphibolised dolerite	
67		axe	Lower Ingleston, Keithhall	NJ 7922	Inverurie AF 18	XXXIII	
68		axe	Lower Ingleston, Keithhall	NJ 7922	Inverurie AF 19	XXXIII	
69		axe	Lower Ingleston, Keithhall	NJ 7922	Inverurie AF 20	XXXII	
70		axe	Keithhall	NJ 7821	Inverurie AF 21	XXXII	
71		axe, broken	North Mains of Barra, Hourtie	NJ 797264	Inverurie AF 22	XXXII	
72		axe	Home Fm, Pitcaple Castle, Chapel of Garioch	NJ 7225	Inverurie AF 23	XXXII	
73		axe	Aberdeenshire	-	Inverurie AF 24	altered augite peridotite	
74		axe	Kinellar	NJ 8112	Inverurie AF 25	XXXIII	
75		axe	Selbie, Hill, Bourtie	NJ 8023	Inverurie AF 26	XXXII	
76		axe	Kirkton, Kinellar	NJ 8214	Inverurie AF 27	XXXII	
77		axe, broken	Tertowie House, Kinellar	NJ 823102	Inverurie AF 29	metamorphosed feldspathic quartzite	

No.	Ser.	Implement	Locality	N.G.R	Accession	Petrology	Note
80		axe	Brodiach. Skene	NJ 843070	Inverurie AF 33	XXXII	
81		axe	Harlaw, Chapel of Garioch	NJ 7424	Inverurie AF 36	XXXIII	
82		axe	Inverurie	NJ 7621	Inverurie AF 37	altered quartz dolerite	
83		axe	Aberdeenshire	-	Inverurie AF 40	quartz sericite schist	
84		axe	Pitcaple. Chapel of Garioch	NJ 7225	Inverurie AF 42	XXIV	
85		axe	Peathill, Keithhall	NJ 822187	Inverurie AF 43	-	
86		axe	Aberdeenshire	-	Inverurie AF 44	XXXIII	
87		axe	Barra Castle. Bourtie	NJ 7925	Inverurie AF 45	porphyritic pyroxene andesite	
88		axe	Fullarton Fm. Kintore	NJ 7818	Inverurie AF 46	XXXII	
89		axe	Fullarton Fm. Kintore	NJ 7818	Inverurie AF 47	XXXIII	
90		axe	Fullarton Fm. Kintore	NJ 7818	Inverurie AF 49	XXXIII	
91		axe	Fullarton Fm. Kintore	NJ 7818	Inverurie AF 50	quartz basalt	
92		axe	Gatherty Moss, Fyvie	NJ 8040	Inverurie AF 53	metamorphosed siltstone	
93		axe	Ardeidly, Monymusk	NJ 671157	Inverurie AF 54	metamorphosed siltstone	
94		axe	Mid Harlaw. Chapel of Garioch	NJ 7424	Inverurie AF 55	metamorphosed greywacke	
95		axe	Conglass. Inverurie	NJ 7523	Inverurie AF 56	XXXIII	
96		axe	Chapel of Seggat, Auchterless	NJ 727426	Inverurie AF 57	metamorphosed siltstone	
97		axe	Upper Darley, Auchterless	NJ 724397	Inverurie AF 58	XXXIIIa	
98		axe	Peathill, Keithhall	NJ 822187	Inverurie AF 59	altered porphyritic dolerite	
99		axe	Castle Fm. Hallforest. Kintore	NJ 777153	Inverurie AF 62	XXXIIIa	
100		axe. broken	Conglass, Inverurie	NJ 7523	Inverurie AF 63	XXXII	
101		axe. broken	Al tons, Kinnmuck. Keithhall	NJ 809205	Inverurie AF 64	XXXII	
102		axe. fr	Keithhall	NJ 7821	Inverurie AF 65	XXIV	
103		axe	Fawells. Keithhall	NJ 821217	Inverurie AF 66	XXXIII	
104		axe	Chapel of Garioch	NJ 7124	Inverurie AF 67	XXXIII	
105		axe	Cuttlecraigs. Daviot	NJ 759266	Inverurie AF 68	quartz biotite hornfels	
106		axe. broken	Lumphart, Daviot	NJ 760270	Inverurie AF 69	quartz chlorite epidote schist	
107		axe	Upper Darley. Auchterless	NJ 724397	Inverurie AF 70	XXXII	
108		axe. broken	Lumphart. Daviot	NJ 760270	Inverurie AF 71	XXXII	
109		axe	Lumphart. Daviot	NJ 760270	Inverurie AF 72	tresolite saussurite rock	
110		axe	Methlick	NJ 8537	Inverurie AF 73	XXIV	
111		axe	Cotton Hillock, Methlick	NJ 855369	Inverurie AF 74	altered quartz basalt	
112		axe	Lumphart, Daviot	NJ 760270	Inverurie AF 75	cordierite crypto-hornfels	
113		axe. broken	Shadowside, Bourtie	NJ 7824	Inverurie AF 76	XXXII	
114		axe. broken	Lumphart. Daviot	NJ 760270	Inverurie AF 78	XXXIII	
115		axe. broken	Lumphart. Daviot	NJ 760270	Inverurie AF 80	metamorphosed greywacke	
116		axe. broken	Dykenook. Keithhall	NJ 836220	Inverurie AF 81	amphibolised porphyrite	
117		axe	Easter Aquhorthies, Inverurie	NJ 732207	Inverurie AF 82	amphibolised porphyrite	
118		axe	Lumphart, Daviot	NJ 760270	Inverurie AF 83	andesite	
119		axe. broken	Old Meldrum	NJ 8027	Inverurie AF 86	XXXI	
120		axe	Castle Fm. Hallforest. Kintore	NJ 777153	Inverurie AF 87	metamorphosed siltstone	*
121		axe. broken	Aberdeenshire	-	NMAS AF 998	IX	
122		axe	Skene	NJ 8007	NMAS AF 402	VI	
123		axe	Deskryside, Donside	NJ 3812	NMAS AF 1009	XXIV	
124		axe	Aberdeenshire	-	NMAS AF 1051	IX	
125		axe	Blindfaulds. Fyvie	NJ 7637	NMAS AF 381	VI	
126		axe	Cairnhill. Ellon	NJ 981360	NMAS AF 440	cordierite schist	
127		axe	Buchan district	NJ 9449	NMAS AF 556	VI	
128		axe	Logie Durno, Chapel of Gariach	NJ 707268	CUM 72.53	VI	
129		axe	Achallater, Crathie & Braemar	NO 1589	NMAS AF 207	XXIV	*
130		axe	Buchan district	NJ 9449	NMAS AF 553	XXIV	*
131		axe	Mid Haddo, Fyvie	NJ 754387	NMAS AF 631	-	*
132		axe	Aberdeenshire	-	GAGM '55-96 pz	XXIV	
133		axe	Aberdeen	NJ 9306	GAGM '55-96 qq	quartz biotite schistose grit	
134		axe	Harlaw. Chapel of Garioch	NJ 7424	St Andrews Univ Mus N 1001	-	
135		axe	Aberdeen	NJ 9306	GAGM '55-96 pw	IX	
136		axe	Braemar (nr)	NO 1491	AshM 1927.4032	quartz porphyry	
137		axe	Fyvie	NJ 7637	AshM 1927.4034	blotite granite	
138		axe	Oyne	NJ 6725	AshM 1927.4035	epidotised tuff	
139		axe	Dudwick	NJ 9737	AshM 1927.4033	altered greywacke	
140		omitted	-	-	-	-	
141		a-h. I. unfin	Turriff	NJ 7249	NMAS AH 191	coarse metasandstone	
142		a-h. I ?	Cushnie	NJ 7962	AAG 67.6 4	quartzite	
143		a-h. I	Ardo Moss	NJ 9221	Aberd 125.3	XXVIII c	
144		b-a	Hid Clova	NO 3273	NMAS AH 202	garnet amphibolite	
145		b-a, E	Monymusk	NJ 6815	Aberd 124.4	XXVII v	
146		b-a, I-D	Alford	NJ 5715	Aberd 118	near XXVIII	
147		b-a, I-D	Thistley Crook Farm	NJ 6202	NMAS AH 225	layered mudstone	
148		b-a, NV	Strichen	NJ 9555	Aberd No.39 (cat)	XXXI	*
149		b-a, NV, grooved	Broomend of Crichtie (stone circle)	NJ 7321	NMAS EP 2	andalusite cordierite muscovite quartz hornfels	

Angus

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Drimmie Fm, Rescobie	NO 514522	Methven Inst Forfar	muscovite tremolite schist	*
2		axe	Turbeg Fm, Campbeltown Br. Forfar	NO 443518	Methven Inst Forfar	hornfels	
3		axe. fr	Angus	-	Dundee Mus 66-221	hornfels	
4		axe. fr	Murroes	NO 4635	Dundee Mus 66-43	trachy-andesite ?	*
5		axe	Barnhill Fm, Dundee	NO 471321	Dundee Mus 65-257	trenolite schist	*
6		axe	Barnhill Fm, Dundee	NO 476323	Dundee Mus 66-6	hornfels	*
7		axe	Stannergate, Dundee	NO 427310	Dundee Mus 64-67	andesitic tuff	*
8		axe	Coupar Angus Rd, Dundee	NO 375532	Dundee Mus 64-64	hornfels	
9		axe	385 Perth Rd, Dundee	NO 369298	Dundee Mus 54-283	greywacke	
10		axe	Maryton Fe. Old Montrose	NO 683562	GAGM '55-96sb	-	
11		axe	Glenshee	NO 1462	NMAS AF 80	XXIV	
12		axe	Brechin	NO 5960	NMAS AF 107	XXIV	
13		axe	Gowanhead, Parnell	NO 815564	NMAS AF 660	tuff	
14		adze	Mill Fm. Invergowrie	NO 3430	NMAD AF 1010	XXIV	

No	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
15		a-h, 1	Tannadice, Forfar	NO 4550	NMAS AH 9a	metagraywacke	
18		b-a, E	Burnside Mill (cist)	NO 501501	NMAS AH 142	porphyritic microgranodiorite	
17		b-a, E, unfin	Glamis Parish	NO 3845	NMAS AH 209	diorite	

Argyllshire

No	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Kilmartin	NM 8398	PP	basalt	*
2		axe, r-o	Southend, Kintyre	NR 6908	NMAS AF 15	IX	*
3		axe	Oban	NM 860300	GAGM '02-114i	-	
4		axe	Loch Asgog, Ardlamont	NR 948705	GAGM 7c-27	IX	
5		axe, fr	Auchategan, Glendaruel	NS 002843	PP	VI	
6		axe, fr	Auchategan, Glendaruel	NS 002643	PP	VI	
7		axe	Ardrihaig	NR 053863	Hunterian	-	
8		axe	May Fm, the Laggan	NR 699207	Campbeltown Mus	-	*
9		axe	Kildalloig; Fm, Campbeltown	NR 753188	Canpbeltown Mus	IX	*
10		axe	Darlochan Moss, the Laggan	NR 6723	Campbeltown Mus	IX	*
11		axe	Ardnacross Fm, Campbeltown	NR 767263	Campbeltown Mus	VI	*
12		axe	Pennysarach Fm, Southend	NR 713077	Campbeltown Mus	-	*
13		axe	Kilkerran Cemetery, Campbel own	NR 725196	Campbeltown Mus	IX	*
14		axe, r-o	Ballure, Tayinloan	NR 715496	Campbeltown Mus	VI	*
15		axe	Southend, Kintyre	NR 6900	NMAS AF 16	IX	*
16		axe	Strachur	NN 0901	NMAS AF 138	-	
17		axe	Campbeltown	NR 7120	NMAS AF 398	hornfels	
18		axe	Dalsmeran, Southend	NR 643133	Campbeltown Mus	IX	*
19		axe	Southend, Kintyre	NR 6908	NMAS AF 96	VI	*
20		b-a, I-D	?Poltalloch Estate	NR 8196	NMAS HPO 26	porphyritic olivine basalt	
21		b-a, NV ?, unfin	Island of Coll	NM 15	NMAS AH 35	porphyritic olivine basalt	
22		a-h	Inverary	NN 1010	NMAS AH 74	low grade metadolerite	

Arran

No.	Ser	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	?Giants' Graves chambered cairn	NS 043247	Hunterian A 1942.3	VI	*
2		axe	?Giants' Graves chambered cairn	NS 043247	Hunterian A1942.4	VI	*
3		axe	?Giants' Graves chambered cairn	NS 043247	Hunterian A1942.6	VI	*
4		axe	?Giants' Graves chambered cairn	NS 043247	Hunterian A1942.7	VI	*
5		axe	?Giants' Graves chambered cairn	NS 043247	Hunterian A1942.5	basalt	*
6		axe	?Giants' Graves chambered cairn	NS 043247	Hunterian A1942.8	IX ?	*
7		axe	Arran	NR 9634	NMAS AF 718	IX	
8		axe, fr	Rowanbank Fm, Machrie	NR 8934	NMAS AF 1004	IX	*
9		axe, fr	Rowanbank Fm, Machrie	NR 8934	NMAS AF 1005	IX	*
10		axe, r o	Rowanbank Fm, Machrie	NR 0934	NMAS AF 1003	IX	*
11		axe	Claddock	NS 0137	NMAS AF 2	VI	
12		axe	Bennecarrigan	NR 948240	NMAS AF 868	VI	
13		axe	Arran	- -	NMAS AF 706	VI	
14		axe, r-o	Carmahome, Kilpatrick	NR 914268	GAGM '55-96ub	graywacke	

Ayrshire

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Shewalton, Dundonald	NS 335365	Hunterian B 1914.130	IX	*
2		axe	Shewalton, Dundonald	NS 335365	Hunterian B 1914.131	IX	*
3		axe	Point of Ayr	NS 2919	Salisbury, Blackmore Coll E.T.S. 32	VI	
4		axe	Lendalfoot	NX 130900	Dumfries Mus	rodingite	*
5		axe	Polquitrin, New Cumnock	NS 6313	GAGM A6533c	VI	
6		axe	Borland, Old Cumnock	NS 587175	GAGM A6533d	VI	
7		axe	Drumbowie, Ochiltree	NS 466154	GAGM A6533e	VI	
8		axe	nr Knockgerran, Girvan	NX 249977	NMAS AF 668	VI	
9		axe	nr Pyetbog Pit, Kilwinning	NS 319430	NMAS AF 705	VI	
10		axe	West Kilbride	NS 2048	NMAS AF 297	VI	
11		axe	Dairy Station	NS 2949	NMAS AF 717	VI	
12		axe	Highthorn, West Kilbride	NS 199499	NMAS AF 634	-	*
13		axe	Kirk Hall, Ardrossan	NS 237438	Brighton Mus Tapham coll 154	-	
14		a-h, I	Killkerran	NS 3003	Kelv 55-96	XXIX	
15		a-h, unfin	Pennyland	NS 5622	Kelv A.705	near XXIX	
16		a-h, I, unfin	Blinddurn, Dalgain	NS 4423	NMAS AH 63	porphyritic olivine basalt	
17		a-h, I	Auchan Castle	NS 363345	Kiln AC 311	tholeiite	
18		a-h, I	Beith	NS 3453	NMAS AH 12	XXVII v	
19		a-h, I	Preston, Colnonell	NX 1486	NMAS AH 14	XXVII	
20		a-h, I	Colmonell	NX 1587	NMAS AH 147	XXVII	
21		b-a, I-D	Nith Lodge	NS 536093	NMAS EP 57	XXIX	
22		a-h	Lugar Water, Lugar	NS 590214	NMAS AH 238	XXVII	
23		b-a, NV, grooved	Chapleton Farm	NS 2342	NMAS EQ 65	porphyritic olivine basalt	*
24		b-a, I-D, grooved	Carwinning Hill	NS 3050	Kelv	XXVIII	*
25		b-a, unfin	Templeton Farm	NS 395345	Kiln TF 305	epidote amphibolite	
26		b-a, NV	Hallawshean Farm	NS 245059	Kelv 51-45	coarse metabasite	
27		b-a, I-D, grooved	Montfode Braes	NS 237442	Kelv LA 64 36c	XXVIII (XXVIII)	
28		b-a	Templeton Farm	NS 395345	Kiln TF 312	XXIX	
29		a-h, I	Craigie	NS 4232	NMAS AH 176	gneiss (ns)	

Banffshire

No.	ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Newmill	NJ 435525	Hunterian B 1914.132	schistose grit	*
2		axe	Mortlach, Dufttown	NJ 324393	NMAS AF 967	VI	*

Berwickshire

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Preston	NT 7957	Hunterian B 1914.135	VI ?	*
2		axe	Cornhill-on-Tweed	NT 863395	Hunterian B 1914.134	VI	*
3		axe	Hexpath. Greenlaw	NT 863467	Hunterian B 1914.148	altered siltstone	
4		a-h. I	Carolside	NT 562398	Hunt B.1914.250	XXVII g	
5		a-h. I	Whitsome	NT 865514	Hunt B.1914.252	XXVII (XV)	
6		a-h. I	Craigsford Mains	NT 565358	Hunt B.1914.251	XXX	
7		a-h. I	near Lauder	NT 5347	NMAS AH 149	XXVI I	
8		a-h. I	Gordon	NT 828458	NMAS AH 247	XXVI I	
9		a-h. I	Duns	NT 7854	NMAS AH 8	XXVII	
10		b-a, E	Hagg Wood, Foulden	NT 9257	NMAS EQ 322	XXVIII (XVIII)	
11		b-a, I-D	Chirnside	NT 884567	NMAS AH 243	porphyritic olivine basalt	
12		b-a. I-D	Lauder	NT 5347	NMAS AH 151	altered porphyritic wicrograno-diorite	

Bute

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Townhead, Rothesay	NS 0864	Bute Mus Rothesay	VI	
2		axe	Dunagoil	NS 086531	Bute Mus Rothesay 1919 A 45	near IX	

Caithness

No	ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		b-a. Nvee	Wick	ND 3650	NMAS AH 175	awphibolite	

Clackmannanshire

N0.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		a-h, I	Balquharn. Alva	NS 867973	NMAS AH 120	XXVII g	
2		b-a, E	Sauchie. Alloa	NS 9094	Hunt B. 1914 247	porphyritic olivine basalt	

Dumfriesshire

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Johnstone	NY 0794	Hunterian B 1964.150	VI ?	*
2		axe. r-o	Beckfoot, Annan	NY 217656	Dumfries Mus 24/SA/782	VI	*
3		axe	Maidenbower Crag, Duafries	NX 988745	Dumfries Mus 4/SA/11	VI	*
4		axe	Carruthers. Middlebie	NY 251806	Dumfries Mus 21/SA/591 1949-31	VI	*
5		axe	Kelton Mains, Duwfries	NX 987710	Dumfries Mus 8/SA/27	VI	*
6		axe	Durisddeer	NS 8903	Dumfries Mus 6/SA/571 1949-7	VI	*
7		axe	Tynron	NX 805929	Dumfries Mus 22/SA/618	VI	*
8		axe	Watcarrick. Blackburn Br, Eskdalemuir	NY 239965	Dumfries Mus 23/SA/735	XIII ?	*
9		axe	Newfield, Hoddor	NY 176768	Dumfries Mus 2/SA/6	-	*
10		axe	Tinwald	NY 0283	Dumfries Mus 7/SA/26	-	*
11		adze	Dunreggan Brae. Moniaive	NX 7790	Dumfries Mus 14/SA/430	greywacke	*
12		axe	Closeburn	NX 9393	Dumfries Mus 15/SA	VI	*
13		axe	Bellfield Fm. Cowhill	NX 950826	Dumfries Mus 12/SA	VI ?	*
14		axe	East Tinwald	NY 047809	Dumfries Mus 16/SA	VI	*
15		axe	Hollywood. Cowhill	NX 950826	Dumfries Mus 11/SA	VI	*
16		axe	Land Fm, Middlebie	NY 218751	Dumfries Mus 19/SA	VI	*
17		a-h, I	Dumfries	NX 9776	Carl AII 230	greywacke (section lost)	
18		axe	Barndenoch, Keir	NX 891884	Dumfries Mus 1965-92	riebeckite felsite	*
19		axe	Elickock Grange, Sanquhar	NS 804079	Dumfries Mus 1967-598-27	VI	*
20		axe. r-o	Lochar Moss	NY 038716	Dumfries Mus 1969-98	VI	*
21		axe	Milnfield. Annan	NY 185662	Dumfries Mus 393 13/ SA 1936-217	VI	*

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
22		axe	Inglestone Rig. Durisdeer	NS 876042	Dumfries Mus 1965-96	VI	*
23		axe	Carson's Park. Auchenhessane. Tynron	NX 803968	Dumfries Mus 1965-97	VI	*
24		axe	Connelbush. Sanquhar	NS 758105	Dumfries Mus 1967-598-25	VI	*
25		axe	Dinwoodie Green. Applegirth	NY 107884	NMAS AP 26	VI	*
26		axe. fr	Byreholm Fm. Keir	NX 854941	Dumfries Mus 1965-95	VI	*
27		axe	Barhill Pm. Keir	NX 834919	Dumfries Mus 1965-96	VI	*
28		axe. fr	Durisdeer parish	NS 8904	Dumfries Mus 1965-99	VI	*
29		axe. fr	Dunfries town	NX 9776	Dumfries Mus 1965-10	VI	*
30		axe	Justenlees Fm. Cummertrees	NY 168675	Dumfries Mus 1971-41	VI	
31		axe. broken	Kinnellmill, Lochmaben	NY 088847	Dumfries Mus 1973-3	tuff	
32		axe	Greenhead. Dunscore	NX 902825	Dumfries Mus 1969-43	VI	*
33		a-h. I	Marchmount	NX 9776	Dmfs 1934/9	XXVI I	
34		a-h. I	Drummuir Farm	NY 043643	Dmfs 1934/10	XXVI I	
35		a-h. I ?	Ruthwell	NY 0769	Dmfs 1934/15	XXVII	
36		a-h. I	Irongay	NX 8577	Dmfs 1934/16	XXVII m	
37		a-h. I ?	Barncleugh	NX 902760	Dmfs 1934/20	XXVII	
38		a-h. I	Annandale	NY 1276	Dmfs 1934/30	XXVII v	
39		a-h. I	Portrack	NX 940830	Dmfs 1937/1	XXVI I	
40		a-h. I	Troless Farm	NS 915092	Dmfs 1948/5	XXVII	
41		a-h. I	Glencairn	NX 7989	Dmfs 1949/17	XXVII v	
42		a-h. I ?	Glencairn	NX 7989	Dmfs 1949/18	altered igneous rock	
43		a-h	Dunscore	NX 8684	Dmfs 1949/20	XXVI I	
44		a-h. I	Cormaddie Farm	NX 929806	Dmfs 1964/126	XXVII v	
45		a-h. I. unfin	Whitehall Farm	NX 966856	Dmfs 1965/360	XXVII	
46		a-h. I. unfin	Greenhead	NX 8992	Dmfs 1965/361	near XXVII	
47		a-h. I	Holywood	NX 9282	Dmfs 1965/364	porphyritic microtonalite	
48		a-h. I	Auchenage	NX 876883	Dmfs 1965/365	xxx	
49		a-h. I	Holywood	NX 9480	Dmfs 1965/376A	quartz muscovite biotite chlor- ite schist	
50		a-h. I	Auldgirth	NX 912870	Dmfs 1965/368	XXVI I	
51		a-h. I	Balterson Farm	NX 9480	Dmfs 1965/370A	XXIX	
52		a-h. I ?	Park of Closeburn	NX 908911	Dmfs 1965/370B	fine grained micaceous sandsto- ne	
53		a-h. I	Glencaple	NX 995685	Dmfs 1968/152	XXVII	
54		a-h. I	Applegarth	NY 114875	Dmfs 1971/156	XXVII v	
55		a-h. I	Ecclefechan	NY 1974	Dmfs 1972/37	XXVII g	
56		a-h. I	Annan	NY 1966	Dmfs 3969/45	XXVI I	
57		a-h. I	Ruthwell	NY 0869	Dmfs 1934/17	XXVIII c	
58		a-h. I	Kingholm	NX 975735	Dmfs 1977/32	xxx	
59		a-h. I	High Kilroy	NX 917835	Dmfs 1965/359	XXVII v	
60		a-h. I	Cobshaw Farm	NY 0285	Dmfs 1965/370	near XXVII	
61		a-h. I	Rockhall	NY 049752	Dmfs 1934/31	XXVI I	
62		b-a. II	Locharbriggs	NX 9980	Dmfs 1948/6	XXVI I	
63		a-h. I	Dumfries	NX 9776	Dmfs 1951/1	XXVII g	*
64		a-h. I. unfin	Dumfries district	NY 07	Dmfs 1934/34	XXVI I	
65		a-h. I	Chanlockfoot	NX 7900	Dmfs 1965/367	near XXVII	
66		a-h. I	Keir Mill. Keir	NX 870930	Dmfs 1965/369	XXVII (XV)	
67		b-a. II	Annandale	NY 1381	Dmfs 1969/46	XXVII	
68		a-h. I	Kirkmichael	NY 0288	Dmfs 1934/19	XXVII g	
69		a-h. I	Douglas Farm	NY 307690	NMAS AH 140	XXVII	
70		a-h. I	Westhills Farm	NY 272655	NMAS AH 1	XXVI I	
71		a-h. I	Loch of Friarscarse	NX 926649	NMAS AH 199	XXVII	
72		a-h. I	Kirk of Dunscore	NX 8784	NMAS AH 13	XXVI I	
73		a-h. I	near Lochmaben	NY 0882	NMAS AH 128	XXVII	
74		a-h. I	Lochmaben	NY 0883	NMAS AH 168	XXVII	
75		a-h. I	Glentworth Burn, nr Canonbie	NY 3675	Carl 87-1970.1	XXVII (XV)	
76		a-h. I	Muckleholm	NY 356646	Hawick -	XXVI I	
77		a-h. I	Ulzieside	NS 775088	Dmfs 1967-598-13	XXVII v	
78		a-h. I	Lochmaben	NY 0883	NMAS AH 11	XXVII (XV)	
79		a-h. I	Creighton R.I. Hosp.	NX 982740	Dmfs 1950/61	XXVII (XV)	
80		a-h. I	Glencairn Valley	NX 7989	Dmfs 1967/590 (label led 1967/490)	XXVII (XV)	
81		b-a. I-D, grooved	Amaisfield	NY 001826	Dmfs 1965/75	XXVIII (XVIII)	
82		b-a. E	Castledykes	NX 9973	Dmfs 1946/2	porphyritic mugearite	
83		b-a. E	Barrhill. Keir	NX 635920	Dmfs No.254	porphyritic microgranodiorite	

Dunbartonshire

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1	229	flake	Shegartan Fm. Luss	NS 352882	Wellcome Hist Med Mu s	IX	*
2	230	flake	Shegartan Fm. Luss	NS 352882	Wellcome Hist Med Mu s	IX	*
3	231	flake	Luss, ?Shegartan Fm	NS 352882	Wellcome Hist Med Mu s	greenstone	
4		axe. fr	Chambered cairn, Walton Fm	NS 363782	GAGM '55-167a	greywacke	
5		axe	New Kilpatrick	NS 5574	GAGM 8a-70	IX	
6		axe	New Kilpatrick	NS 5574	GAGM 8b-70	IX	
7		axe	Claddochside. Gartocharn	NS 425876	GAGM '55-96mh	IX	
8		axe	Portkil. Kilcreggan	NS 2380	NMAS AF 558	VI	*
9		a-h. I, unfin	New Kilpatrick	NS 4575	Kely 6c-70	kaersutite-bearing teschenite	

East Lothian

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Haddingtonshire	NT 5173	NMAS AF 270	IX	
2		axe	Nisbet Fm, Pencaitland	NT 465699	NMAS AF 1031	XXII	*
3		axe	Traprain Law, Prestonkirk	NT 6874	NMAS GVN 6	VI	*
4		axe	Traprain Law, Prestonkirk	NT 5874	NMAS GVN 9	VI	*
5		axe	Traprain Law, Prestonkirk	NT 5874	NMAS GVN 10	XXIV ?	
6		axe	Invereil, Dirleton	NT 526853	NMAS AF 680	VI	
7		a-h, I	Athelstaneford	NT 5377	NMAS AH 215	XXVIII c	
8		a-h, I	East Lothian	NT 76	NMAS AH 208	near XXVIII	
9		b-a, I-D	Longniddy	NT 4476	NMAS AH 108	XXVIII (XVIII)	

Fife

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Pitreavie House, Dunfermline	NT 0987	NMAS AF 448	jadeite	*
2		axe	Fife (Coupar?)	ND?3714	NMAS AF 266	IX	*
3		axe	Kirkcaldy	NT 2891	AshM 1927 4041	VI	
4		omitted	-	-	-	-	
5		a-h, I	Balmerino	NO 3525	BM 562.9-5.1	porphyritic olivine basalt	
6		b-a, NV, grooved	Newport	NO 4226	NMAS AH 185	basalt	
7		a-h	nr St Andrews	NO 5016	NMAS AH 174	near XXVIII	
8		b-a, I-D	River Tay, Newburgh	NO 2318	NMAS AH 57	XII	
9		b-a, E	Barns Farm, Dalgety Bay	NT 178841	EQ 916	chlorite amphibolite	*
10		b-a, E, unfin	Cluny Muir, Thornton	NT 2495	NMAS AH 230	quartzite (ns)	

Inverness-shire

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	R Spean, Fort William	NN 2281	West Highland Mus, F- ort William	jadeite	*
2		axe	Eigg	NM 4787	NMAS BN 46	IX	
3		axe	Inverness-shire	-	NMAS AF 257	IX	
4		rock	Rum	NM 3698	Hunterian M 1140	bloodstone	
5		axe	Culloden Moor	NH 7445	GAGM '21-7b	IX	
6		axe	Onich, Kilmallie	NN 0261	NMAS AF 393	VI	
7		axe	lochdar, South Uist	NF 799468	GAGM '55-96uj	-	
8		axe	Loch Gerry	NH 2302	Brighton Mus R 1540	-	
9		axe	Raasay	NG 5743	Brighton Mus 155	-	

Islay

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Kildalton	NR 4347	NMAS AF 575	IX	
2a		axe	Islay	-	NMAS AF 997	IX	*
2b		axe	Islay	-	NMAS AF 997	IX	*
3		b-a, E	Port-na-Haven	NR 1652	Paisley 157/1971	altered dolerite	

Jura

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe, fr	Lussa Wood I	NR 6486	PP	IX	*
2		axe	Ardfernal by Knockrome	NR 562716	NMAS AF 987		*

Kinkardineshire

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Kinkardineshire	-	Hunterian	-	
2		axe	Garvock Fm, Laurencekirk	NO 745705	Dundee Mus 64-61	spherulitic rhyolite	
3		axe	Strachan	NO 6792	St Andrews Univ Mus N 1002	-	
4		a-h, I	Durris	NO 7794	Hunt B.1951.2217	altered microgabbro	
5		a-h, I	Pordoun	NO 7278	NMAS AH 7	metamorphic rock (ns)	

Kirkcudbrightshire

No	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Maryland, Troqueer	NX 971662	Dumfries Mus 10/SA/2	VI	*
2		axe	East Preston Fm, Kirkbean	NX 968564	Dunfries Mus 5 1934-9	VI	*
3	563	axe	Cairnholy I chambered cairn	NX 516539	NMAS EO 826	jadeite	*
4		axe, fr	Castle Douglas	NX 7662	NMAS AF 86	jadeite	*
5		axe	Kirkland Hill Fm, Kirkpatrick-Durham	NX 780697	NMAS AF 699	IX	
6		axe	Borgue	NX 6248	GAGM '40-7ac	VI	
7		axe, r-o	Terregles	NX 943778	Dumfries Mus 1964-15	VI	*
8		axe	Dalbeattie	NX 8361	Dumfries Mus 1965-91	VI	
9		axe	Fairies Well, Tongland	NX 669569	NMAS AF 28	VI	*
10		axe	Twynholm	NX 665545	NMAS AF 27	VI	*
11		axe	Twynholm	NX 663542	NMAS AF 139	VI	*
12		axe	St Mary's Isle, Kirkcudbright	NX 6749	Stewartry Mus KRK 3250	VI	
13		axe	Linkens, Rerrick	NX 755558	Stewartry Mus KRK 2119	VI	
14		axe	Ardendee, Kirkcudbright	NX 694526	Stewartry Mus KRK 109	VI	
15		axe	Baltersan, Holywood	NX 910800	Dumfries Mus 1985-93	VI	*
16		axe	Bogue Knowe, Colvend	NX 909592	NMAS AF 503	VI	*
17		axe	Bogue Knowe, Colvend	NX 909592	NMAS AF 504	VI	*
18		axe	Bogue Knowe, Colvend	NX 909592	NMAS AF 505	VI	*
19		axe	Barlocco, Borgue	NU 597496	NMAS AF 663	VI	*
20		axe	Twynholm	NU 663542	NMAS AF 140	VI	
21		axe	Terregles	NX 930770	Dumfries Mus 1965-94	VI	*
22		axe, re-ground	Maxwellfield, Kirkbean	NX 976569	Dumfries Mus 1969-12	VI	*
23		omitted	-	-	-	-	
24		a-h, I ?	Balnacellan	NX 6579	NMAS AH 19	XXVI I	
25		a-h, I	Maxwelltown	NX 965760	Dmfs 1934/32	quartz mica schist	
26		a-h, I	Moat of Troqueer	NX 9775	Dmfs 1934/35	XXVI I	
27		a-h, I	New Abbey	NX 9666	Hunt B.1914.253	XXVII	
28		a-h, I	Grierson, New Abbey	NX 9666	Hunt B.1951.2120	XXVII v	
29		a-h, I	Carruchan	NX 949738	Dmfs 1934/36	XXVII g	
30		a-h, I	Troqueer	NX 974750	Dmfs 1935.15	near XXVII	
31		a-h, I	Lochpatrick Mill	NX 785700	Dmfs 1965/363	XXVII	
32		a-h, I	Culquha Farm	NX 690585	Kirk 5250	XXVII	
33		a-h, I	River Cree	NX 4165	Kirk 5249	XXX	
34		a-h, I	Cairnsnore	NX 4764	Kirk 5070	XXVII	
35		a-h, I	near Castle Douglas	NX 7662	Kirk 5060	XXX	
36		a-h, I	Kelton	NX 7658	Kirk 1608	XXVII	
37		a-h, I	near Castle Douglas	NX 7662	Kirk 5062/a	XXVII	*
38		a-h, I	Auchlane Farm	NX 7662	Kelv 1-'43	XXVIII	
39		a-h, I	Carlingwark Loch	NX 7661	NMAS AH 10	quartz syenite	
40		a-h, I	Balmacellan	NX 6579	NMAS AH 64	XXVII	
41		a-h, I	Kelton	NX 7560	NMAS AH 27	XXVI I	
42		a-h, I	Minnigaff	NX 4266	NMAS AH 171	XXVII	
43		a-h, I	Auchencarn Moss	NX 798512	NMAS AH 110	XXVII	
44		a-h, I	Culraven Farm	NX 643482	Kirk 2946	XXVI I	
45		a-h, I ?	Hills, Lochrutton	NX 9173	Kirk -	XXVII g	
46		a-h, I	North Milton Farm	NX 709477	Kirk 2683	near XXVII	
47		a-h, I	Garmartin	NX 793690	Kirk 3899	XXVII	
48		a-h, t	Irelandton Farm	NX 647563	Kirk 3283	near XXVII	
49		a-h, I	Langbarns Farm	NX 693536	Kirk 144	XXVI I	
50		a-h, I	Deebank	NX 6851	NMAS AH 9	XXVII	
51		a-h, I	Minnigaff, probably	NX 4570	NMAS AH 172	XXVI I	
52		a-h, I	Shambellie	NX 9667	BM -	XXVII g	
53		b-a, I-D	Janefield Park	NX 9670	Dmfs 1934/25	tholeiite	
54		b-a, E	New Galloway	NX 6377	Kirk 4050	XXVII	
55		b-a, E, unfin	Kirkcudbright	NX 6850	Kirk 4089	XXVI I	
56		a-h, I	Grange Farm, Urr	NX 791671	NMAS AH 224	porphyrite (ns)	

Lanarkshire

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Coulter	NT 0234	NMAS AF 177	IX	*
2		axe	Braidwood	NS 8548	NMAS AF 490	IX	
3		axe	Kirklands Fm, Dunsyre	NT 068479	NMAS AF 1006	IX	*
4		axe	Drumloch Muir, Strathaven	NS 6750	PP	VI	
5		axe	Lamington	NS 9831	NMAS AF 256	VI	
6		axe	Crawfordjohn	NS 8824	NMAS AF 488A	VI	
7		axe, rewk	Kainend, Carnwath	NS 996459	NMAS AF 947	VI	
8		axe, fr	Huntfield, Biggar	NT 013402	NMAS AF 1023	VI	
9		axe, fr	Townfoot, Dolphinton	NT 098456	NMAS AF 1024	VI	
10		axe	Townfoot, Dolphinton	NT 098456	NMAS AF 1026	tuff	
11		axe ?, flake	Shiels, Govan Glasgow	NS 526667	GAGM SE 10	-	
12		axe	Newmills, Dolphinton	NT 119464	NMAS AF 439	VI	
13		exe	Tinto Hill	NS 9534	NMAS AF 38	tuff	
14		axe, re-ground	Lanarkshire	-	NMAS AF 948	VI	
15		axe	Winter Main, Biggar	NT 0437	NMAS AF 179	VI	
16		axe	Townfoot, Dolphinton	NS 098456	NMAS AF 940	XXIV	
17		axe	Beehive, Dolphinton	NT 1046	NMAS AF 942	VI	
18		axe, fr	Croft an Righ, Dolphinton	NY 093476	NMAS AF 945	VI	
19		axe, re-ground	Lanarkshire?	-	NMAS AF 955	IX	
20		axe	Lanarkshire	-	NMAS AF 952	VI	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
21		axe	Greenshields Farm, Newbigging	NT 015460	NMAS AF 1013	VI	
22		axe	Townhead, Dolphinton	NS 095450	NMAS AF 1025	VI	
23		axe	Fernegair, Hamilton	NT 735545	GAGM A 69154	fine grained tuff	*
24		a-h, I	Hilton Farm, Cadder	NS 604718	Hunt A.123	XXIX	
25		a-h, I	Springburn Allotments	NS 610685	Kelv A.778	XXVIII (XVIII)	
26		a-h, I	Stobcross House	NS 5965	Kelv 75-7a	xxx	
27		a-h, I	Nitshill	NS 511601	Paisley 5/1918	XXVII	
28		b-a, II	Covanhill, Forth	NS 923516	NMAS AH 240	XXVII v	
29		b-a, E	Douglas Support	NS 7362	Hunt A.1917.1	XXVII	
30		b-a, I-D	Prince's Dock, Govan	NS 5665	Kelv A.5928	XXVIII (XVIII)	
31		b-a, I-D	Westside Wood	NS 977514	NMAS AH 136	tholeiite	
32		b-a, NV	Victoria Park	NS 538674	Kelv 13-49f	porphyritic basalt	
33		a-h, I	Aikbrae	NT 0234	NMAS AH 50	XXVII	

Lewis

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Bragar	NB 2948	NMAS AF 727	IX	
2		axe	Bragar	NE 2948	NMAS HR 634	IX	
3		axe	Stornoway	NB 4333	PP	VI ?	

Midlothian

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Ratho	NT 1370	NMAS AF 248	IX	
2		a-h, I	West Calder	NT 0163	NMAS AH 59	XXVII	
3		a-h, I	Roslin	NT 2763	NMAS AH 55	near XXVIII	
4		a-h, I	Eskhill, Roslin	NT 265625	NMAS AH 91	XXVIII	
5		a-h, I	Ratho	NT 124716	NMAS AH 227	altered dolerite	
6		a-h, I	Leadburn	NT 235555	NMAS AH 229	XXVII	
7		a-h, I	Leith, Edinburgh	NT 2676	NMAS AH 16	altered porphyritic micro diorite	
8		a-h, I	Longmuir, Stow	NT 4744	NMAS AH 148	XXVII (XV)	
9		b-a, foreign	Pentland (cist)	NT 2666	NMAS EQ 64	plagioclase orthopyroxene amphibole quartz granulite	
10		b-a, E	Cobbinshaw Lock	NT 0158	NMAS AH 93	porphyritic basalt	
11		b-a, I-D	Cranston	NT 3866	NMAS AH 116	XXVIII (XVIII)	

Morayshire

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Urquhart	NJ 2862	NMAS AF 88	IX	
2		axe	Urquhart	NJ 2862	NMAS AF 89	IX	
3		axe	Urquhart	NJ 2862	NMAS AF 90	IX	
4		axe	Urquhart	NJ 2862	NMAS AF 91	IX	
5		axe	Earnside, Alves	NJ 1363	Hunterian B 1951.937	XXIV	
6		axe	Auldearn	NH 9155	Hunterian B 1951.938	XXIV	
9		b-a, grooved	Culbin, Forres	NJ 0358	Hunt B.1951.2121	layered mudstone	
10		a-h, I	Kintessack	NH 9860	Hunt B.1951.2122	granite (ns)	

Mull

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Quinish, Loch Mingarry	NM 426557	NMAS AF 1036	IX	*

Orkney

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Orphir	HY 3203	Hunterian B 1914.609	hornblende	*
2		axe	Drkney	-	NMAS AF 592	IX	
3		b-a, NVee, unfin	Sandwick	NH 2620	NMAS AH 133	XXXI	
4		b-a, NVee, unfin	Longhope, Hoy	ND 3091	Aberd 119.1	XXXI	
5		b-a, NV, unfin	Whitehall, Stronsay	HY 6428	NMAS AH 36	quartzite (ns)	
6		b-a, I-D ?, miniaturere	Georth	HY 3625	NMAS AH 196	metamorphic rock (ns)	
7		b-a, I-D ?, miniaturere, unfin	Skaill	HY 5807	NMAS AH 702	coarse basic igneous rock (ns)	*

Peeblesshire

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Kippit, Dolphinton	NT 1147	NMAS AF 435	IX	
2		axe	Lyne Water, Newlands	-	NMAS AF 242	VI	*
3		axe	Mountain Cross, Newlands	NT 1447	NMAS AF 453	VI	
4		axe	Harestanes, Castlecraig, Kirkurd	NT 1344	NMAS AF 476	VI	*
5		axe	Harlaw Moor, West Linton	NT 1855	NMAS AF 473	fossiliferous limestone	
6		axe	Kilbucho	NT 0633	NMAS AF 186	VI	
7		axe	Slipperfield, West Linton	NT 1352	NMAS AF 460	VI	
8		axe	Garvald, west Linton	NT 1049	NMAS AF 472	VI	
9		a-h, I	Dreva Farm	NT 2541	PbIs 5101	XXVII	
10		a-h, I	Haystoun Farm	NT 259384	PbIs 5102	XXVI I	
11		b-a, I-D	Ladyurd	NT 150426	NMAS AH 137	porphyritic olivine basalt	
12		b-a, I-D	nr West Linton	NT 1551	Hunt B.1951.2123	welded tuff	
13		b-a, I-D	Harley Muir	NT 184557	NMAS AH 56	XXVI I	
14		b-a, I-D	Crookston Farm	NT 249369	PbIs 5097	near XXVIII	

Perthshire

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Blairdrummond Moss	NS 7297	Smith AGM, Stirling A 213	XXIV	
2		axe	Cambusmore, Doune	NN 7102	Smith AGM, Stirling A 214	IX	
3		axe	Glenlyon	-	Smith AGM, Stirling A216	VI	
4		axe	Coldoch Estate	NS 7098	Smith AGM, Stirling A 217	XXIV	
5		axe	Westerton Fm, Aberuthven	NN 976145	Smith AGM, Stirling A 5011	IX	
6		axe	Kenmore	NN 7745	NMAS AF 458	IX	
7		axe	Crieff	NN 8621	NMAS AF 596	IX	
8		axe	Carsie, Blairgowrie	NO 1742	NMAS AF 702	IX	
9		axe, r-o	Creag na Caillich, Killin	NN 564368	Hunterian	XXIV	
10		axe	McRitch Fm, Barry Hill, Alyth	NO 256508	Dundee Mus 58-468	banded hornfels	
11		flake	Axe factory, Creag na Caillich, Killin	NN 561368	Hunterian 1969.9	XXIV	
12		axe, fr	Crieff	NN 8621	GAGM '55-96 un	tuff	
13		axe	Rait, Kilsplindie	NO 225289	NMAS AF 374	VI	
14		axe	Rait, Kilsplindie	NO 225289	NMAS AF 375	XXIV	
15		axe, perf	Cargill	NO 150369	NMAS AF 408	VI	*
16		axe	Glenfalloch	-	NMAS AF 409	cherty shale	
17		axe	Balnahanitt, Loch Tay, Kenmore	-	NMAS AF 508	XXIV	
18		axe	Rossieochil, Forgandenny	NO 0818	NMAS AF 576	XXIV	
19		axe	Kindrochit, Loch Tay	-	NMAS AF 888	XXIV	
20		axe	St Fillans, Comrie	NN 6924	NMAS AF 1030	XXIV	
21		b-a, II	Comrie, probably	NN 7722	NMAS AH 234	XXVII	
22		a-h, I	Cargill	NO 1536	Perth 78	metagreywacke	
23		a-h, I	East Hatton	NO 1947	Perth 1/1945	masediment	
24		a-h, I	Methven	NO 0226	Stirling A 2000	altered porphyritic microdiorite	
25		a-h, I	near Perth	NO 1123	Stirling A 236	XXX	
26		a-h, I, unfin	Dinnock, Dunning	NO 0114	Stirling A 235	epidote amphibolite	
27		a-h, I	West Lundie Farm	NN 7201	Stirling A 1574	XXVII	
28		a-h, I	Tibbermuir	NO 0524	Stirling A 1887	XXVIII c	
29		a-h	Gartmore	NS 5297	Kelv '83-19	altered porphyritic microdiorite	
30		a-h, I	Invernethy	NO 1916	NMAS AH 5	metagreywacke	
31		a-h, I	near Perth	NO 1123	NMAS AH 237	XXVII	
32		b-a, E ?	Auchterarder	NN 9513	NMAS AH 75	epidote amphibolite	
33		b-a, I-D, grooved	nr Perth	NO 1123	NMAS AH 170	XXVIII (XVIII)	
34		b-a, NV, unfin	Glentilt Terrace	NO 1223	Perth 2/1954	quartz amphibole metasediment	
35		a-h	Rossie Law, Dunning	NO 0114	Perth 79	XXIX	
36		b-a, I-D	Perth Railway Bridge	NO 121232	Perth -	feldspar phytic dolerite	
37		b a, E	Mugdrum Island	NO 2218	NMAS AH 44	near XXVIII	
38		b-a, E, unfin	nr Crieff	NN 8621	NMAS AH 124	low grade metadolerite	
39		b-a, E	Loch Tummel	NN 8259	NMAS AH 236	gabbroic troctolite	
40		b-a, E	Grantully (cist)	NN 9153	NMAS AH 106	garnet amphibolite	
41		b-a, I-D, miniature	Doune	NN 724020	NMAS EQ 610	unidentified (ns)	

Renfrewshire

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe, unfin	Auchenfoil, Kilmacolm	NS 312710	pp	micaceous greywacke	*
2		axe	Bishopton	NS 4371	NMAS AF 109	IX	
3		axe	Renfrewshire	-	NMAS AF 274	IX	
4		axe	Renfrewshire	-	NMAS AF 275	IX	
5		axe	Renfrewshire	-	NMAS AF 277	IX	
6		axe	Renfrewshire	-	NMAS AF 280	IX	
7		a-h, I, unfin	Mearns	NS 5455	NMAS AH 73	metagreywacke	
8		a-h, I	Bridge of Johnstone	NS 4463	Kelv 02-114f	XXVII v	
9		b-a, E	Barochan	NS 405695	NMAS AH 168	porphyritic basalt	
10		b-a, I-D	Wheatfield, Kilmacolm	NS 345684	Kelv 55-96	tholeiite	
11		b-a, I-D	Wheatlands Farm	NS 4063	Paisley 1967-15	porphyritic basalt	

Ross and Cromarty

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Mulbuie	NH 6460	NMAS AF 710	IX	*
2		a-h, I	Ballavullin	NH 6569	NMAS AH 249	quartz biotite cordierite garn- et hornfels	
3		b-a, NVee, grooved	Balnagown	NH 7775	NMAS AH 221	sandstone	

Roxburghshire

N0.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe, fr	Hownam Rings, Morebattle	NT 791194	NMAS HH 516	VI	
2		b-a, I-D	River Kale	NT 82	NMAS AH 244	metamorphic rock (ns)	
3		a-h, I	Melrose	NT 5434	Hunt B.1914.225	XXVII g	
5		a-h, I	Hownam	NT 7719	Kelv 55-96	XXVI I	
6		a-h, I	Nisbet Hill Moor	NT 688242	NMAS AH 212	XXVII (XV)	
7		a-h, I	Old Roxburgh	NT 7037	NMAS L. 1933.2103	XXVI I	
8		a-h, I	River Teviot, Hawick	NT 5015	Rawick -	XXVI I	
9		a-h, I	Denholmhill Fort	NT 511092	Hawick -	XXVII m	
10		b-a, E ?	Ednam	NT 7337	NMAS L.1933.2106	microgranite	
11		b-a, I-D ?	Fairnington, Kelso	NT 7334	NMAS AH 198	XXVI I I	
12		b-a, I-D	Mossburnford	NT 6616	NMAS AH 179	XXVIII (XVIII)	
13		b-a, I-D	Kelso	NT 7233	NMAS L.1933.2104	XXVI I	
14		b-a, unfin ?	Ruberslaw	NT 580157	NMAS AM 55	XXVI I	
15		b-a, E ?, unfin	Sprouston	NT 756353	BM 311	altered dolerite	

Scotland (unlocated)

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Northern Scotland	-	PP	XXIV	
2		axe	Grampians	-	Bristol Mus	rhyolite	
3		axe	unprovenanced	-	NMAS AF 422	IX	
4		axe	Caledonian Canal	-	NMAS AF 594	IX	
5		axe	Tarbert	-	GAGM '94-183-j	IX	
6		a-h, I	unknown	-	NMAS AH 23	fine grained sandstone	
7		a-h	unknown	-	NMAS AH 210	XXVI I	
8		a-h, I	unknown	-	Runt B.1914.256	XXVI I	
9		a-h, I, unfin	unknown	-	Dumf 1948/48	XXVII m	
10		misc artefact, fr	unknown	-	NMAS AH 88	xxx	
11		b-a	Galloway	-	NMAS AH 115	XXVI I	
12		a-h, I	unknown	-	Dumf 1961/20	XXVI I	
13		a-h, I	Kirkmuir Castle,	-	NMAS AH 150	XXVIII c	

Selkirkshire

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Ashybank	-	Hunterian B 1914.184	VI	*

Shetland

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe, r-o	Moosa Water, Northravine	HU 325898	PP	XXII	
2		knife	Northravine	HU 3080	PP	XXII	
3		axe	Shetland	-	GAGM '02-114h	IX	
7		b-a, I-D	Shetland	HU 45	NMAS AH 126	near XXIX	
8		hammer, flat elonga- te	Shetland	HU 45	NMAS AH 219	talc carbonate rock	
9		hammer, flat elonga- te	Ness of Gruting	HU 2849	NMAS HD 1026	serpentinite	
10		b-a, I-D, miniature,	Ness of Gruting	HU 2849	NMAS HD 1024	banded metamorphic rock (ns)	
11		unfin b-a, I-D ?, miniatu- re	Ness of Gruting	HU 2849	NMAS HD 1025	fine grained red sandstone (ns)	

Skye and Inner Hebrides

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Glendale	NG 1750	NMAS AF 729	IX	
2		axe	Glendale	NG 1750	NMAS AF 730	near IX	

Stirlingshire

No.	Ser.	Implement	Locality	N . G . R .	Accession	Petrology	Note
1		adze	Kilsyth	NS 7277	Colzium House Mus Ki lsyth	tholeiitic basalt	
2		axe	Denny	NS 8182	Hunterian A 40	VI ?	
3		axe	Graham's Dyke, Falkirk	NS 8879	Smith AGM, Stirling VI A 1396		
4		axe	Myothill Fm. Denny	NS 7882	Smith AGM, Stirling VI A 6097		
		a-h, grooved	nr. Stirling Castlecary	NS 7993 NS 7978	NMAS AH 62 NMAS AH 178	altered dolerite metadolerite	

Sutherland

No.	Ser.	Implement	Locality	N. G. R.	Accession	Petrology	Note
1		axe	Torroble, Lairg	NC 5805	NMAS AF 639	IX	
2		flake, wkd	Golspie	NC 8300	NMAS BJ 197	VI	
3		b-a, E	River Fleet	NH 7997	NMAS AH 239	XXVII	

North and South Uist

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Iochdar, South Uist	—	—	—	
2		axe, fr	Eilean an Tighe, North Uist	NF 8374	NMAS EOA 423	serpentinised perldotite	*
3		flake	Eilean an Tighe, North Uist	NF 8374	NMAS EOA 424	serpentinised peridotita	*
4		flake	Eilean an Tighe, North Uist	NF 8374	NMAS EOA 425	IX	*
5		axe, fr	Eilean an Tighe, North Uist	NF 8374	NMAS EOA 426	siltstone	*
6		flake, polished	Eilean an Tighe, North Uist	NF 8374	NMAS EOA 429		

West Lothian

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1	375	axe, fr	Cairnpapple, Torphichen	NS 987717	NMAS EP 166	VI	
2	376	axe, fr	Cairnpapple, Torphichen	NS 987717	NMAS EP 167	VII	*
3		a-h, I	Torphichen	NS 9772	NMAS AH 3	altered quartz doierite	
4		a-h, I, unfin	Linlithgow	NT 072767	NMAS AU 4	altered porphyritic microtonal- ite	

Wigtownshire

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Whithorn	NX 4440	Dumfries Mus 9/SA/28	micaceous greywacke	
2		axe	Kirklaugblin. Stoneykirk	NX 043507	Dumfries Mus 18/SA/	VI	
3		axe	Leiblands, Arbrack, Glasserton	NX 4531	GAGM '55-96ml	VI	
4		axe	Arbrack, Glasserton	NX 451373	GAGM '55-96mn	VI	
5		axe	Low Glengyre, Kirkcolm	NW 989649	GAGM '55-96mn		
6		axe	Freugh, Stoneykirk	NX 1155	GAGM '55-96mo	tuff	
7		axe	Low Ersock Whithorn	NX 445379	GAGM '55-96mp		
8		axe	Balsmith Wood, Whithorn	NX 464390	GAGM '55-96mr	tuff	
9		axe	Arbrack, Glasserton	NX 481373	GAGM '55-96ms		
10		axe	Whithorn	NX 4440	GAGM '55-96mt	tuff	
11		axe	West Freugh, Stoneykirk	NX 1055	GAGM '55-96mu		
12		axe	Luce	NX 1254	GAGM '55-96mw		
13		axe	West Freugh, Stoneykirk	NX 1055	GAGM '55-96mx	VI	
14		axe	Kidsdale, Glasserton	NX 432366	GAGM '55-96my	VI	
15		axe	Luce Sands	NX 1354	Dumfries Mus 1967-60 6		
16		axe	Glasserton Mains. Glásserton	NX 4238	GAGM '10-117b	tuff	
17		axe	Luce	NX 1354	GAGM '55-96ne	greywacke	
18		axe	Luce?	NX 1354	GAGM '55-96nh	tuff	
19		axe	Arbrack, Glasserton	NX 451373	GAGM '55-96ni	VI	
20		axe	Wigtownshire?		GAGM '55-96nl	IX	
21		axe	Arbrack, Glasserton	NX 451373	GAGM '55-96nm	VI	
22		axe	Wigtownshire		GAGM '55-96nn	VI	
23		axe	Luce Sandhills?	NX 1354	GAGM '55-96no	VI	
24		axe	Ariock Fey, Balgray. Whithorn	NX 4538	GAGM '55-96np	VI	
25		axe	Knockdoon, Luce Bay	NX 132551	GAGM '55-96nv	VI	
26a/b		axe, fr	"Star bead" site) Knockdoon, Lu- ce Bay	NX 132551	GAGM '55-96nw	tuff	
27		axe	Auchnotterock, Leswalt	NW 995605	GAGM '95-3a	VI	
28		axe	Glenstockadale, Leswalt	NX 008599	GAGM '95-9	VI	
29		axe	Wigtownshire		GAGM '95-87a	VI	
30		axe	High Mark, Leswalt	NW 966644	GAGM '96-115	VI	
31		axe	Arbrack. Glasaerton	NX 451373	GAGM '55-96nf	VI	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
32		axe	West Freugh, Stoneykirk	NX 1055	GAGM '55-96nk	VI	
33		axe	Leswalt	NX 0264	GAGM '55-96oa	VI	
34		axe	Falhar, Whithorn	NX 468389	GAGM '55-96ob	VI	
35		axe, fr	Torrns, Old Luce	NX 1456	GAGM '55-96ocA	VI	
36		axe, fr	Torrns, Old Luce	NX 1456	GAGM '55-96ocB	VI	
37		axe, fr	Torrns, Old Luce	NX 1456	GAGM '55-96ocC	VI	
38		axe, fr	Torrns, Old Luce	NX 1456	GAGM '55-96ocD	tuff	
39		axe	Galloway	-	Dumfries Mus 1961-24	IX	
40		axe, fr	Blairbuie, Glasserton	NX 363418	Dumbries Mus 1962-35	VI	
41		axe	Chapelheron, Whithorn	NX 456416	NMAS AF 29	tuff	*
42		axe	Glengyre, Kirkcolm	NW 988649	HMAS AF 31	VI	*
43		adze	Preugh, Stoneykirk	NX 1155	NMAS AF 322	VI	*
44		axe	Muntloch, Kirkmaiden	NX 1234	NMAS AF 334	VI	*
45		axe	Freugh, Stoneykirk	NX 1155	NMAS AF 506	VI	*
46		axe	Arbrack Farm, Glasserton	NX 451373	NMAS AF 627	VI	*
47		axe	Drummore	NX 135365	NMAS AF 623	VI	*
48		axe	Portayewn, Stoneykirk	NX 039503	HMAS AF 410	VI	*
49		axe	Wigtownshire	-	NMAS AF 452	VI	*
50		axe	Kirkcolm	NX 028687	NMAS AF 500	VI	*
51		axe	Kidsdale, Glasserton	NX 432366	NMAS AF 515	VI	*
52		axe	Kirkcolm	NX 028687	NMAS AF 517	tuff	*
53		axe	Threemark, Stoneykirk	NX 075516	NMAS AF 534	tuff	*
54		axe	Home Farm, Penninghame	NX 381694	NMAS AF 572	VI	*
55		axe	Lochnaw, Leswalt	NW 9962	NMAS AF 672	VI	*
56		axe	Kirkiner	NX 423514	NMAS AF 1016	VI	*
57		axe	Barvernochan, Whauphill, Kirkiner	NX 386523	Dumfries Mus 1961-20	-	
58		axe, fr	Knockdoon, Torrns, Luce	NX 132551	GAGM '55-96tf	tuff	
59		axe, fr	Knockdoon, Torrns, Luce	NX 132551	GAGM '55-96tg	VI	
60		axe, fr	"Star bead" site, Knockdoon, Torrns, Luce	NX 132551	GAGM '55-96th	VI	
61		axe, fr	"Starbead" site, Knockdoon, Torrns, Luce	NX 132551	GAGM '55-96ti	VI	
62		axe	Gleniron, Glenluce	NX 1961	NMAS AF 32	VI	*
63		axe	Glenluce	NX 200580	NMAS AF 33	VI	*
64		axe	Tow Mark, Stoneykirk	NX 073523	NMAS AF 153	sandstone	
65		axe	Auchabrick, Ardwell	NX 100418	NMAS AF 236	VI	*
66		axe r-o	Wigtownshire	-	NMAS AF 237	VI	*
67		axe	Kirkcowan	NX 328610	NMAS AF 260	VI	*
68		axe, re-ground	Ardwell, Kirkcolm	NX 007713	NMAS AF 314	VI	*
69		axe	Grennan, Kirkmaiden	NX 124395	NMAS AF 326	VI	*
70		axe	Arbrack	NX 451373	NMAS AF 328	VI	*
71		axe	Ervie	NX 000670	NMAS AF 30	VI	*
72		axe	Kirklauchline	NX 043508	NMAS AF 34	VI	*
73		axe	High Curghlie, Kirkmaiden	NX 1337	NMAS AF 238	VI	*
74		axe	Kirkcolm	NX 028685	NMAS AF 395	VI	*
75		axe	Inch	-	NMAS AF 415	VI	*
76		axe	Sorbie Tower	NX 451470	Dumfries MUS 1961-20	VI	*
77		axe	Kirklauchline, Stoneykirk	NX 043508	GAGM '55-96ng	VI	
78		axe, fr	West Freugh, Stoneykirk	NX 1155	GAGM '55-96nj	tuff	
79		axe	Culmore, Drummore	-	NMAS AF 623	VI	*
80		axe, r-o	Hill Top of Landberrick, Mochrum	NX 364455	NMAS AF 640	VI	*
81		axe, fr	"Star", Luce, Stoneykirk	NX 132551	GAGM '55-96uk	near VI	
82		axe	"Star", Luce, Stoneykirk	NX 132551	GAGM '55-96ul	shale	
83		hone, fr	"2 Star", Luce, Stoneykirk	NX 132551	GAGM '55-96um	micaceous sandstone	
84		axe	High Torrns, Luce	NX 132548	NMAS AF 110	VI	
85		axe	Dunragit, Old Luce	NX 1557	Dumfries Mus 1961-54	VI	
86		axe, fr	"Star", Luce, Stoneykirk	NX 132551	GAGM '55-96utA	VI	
87		axe, fr	"Star", Luce, Stoneykirk	NX 132551	GAGM '55-96utB	VI	
88		axe, fr	"Star", Luce, Stoneykirk	NX 132551	GAGM '55-96utC	fine grained tuff	
89		axe, fr	"Star", Luce, Stoneykirk	NX 132551	GAGM '55-96utD	VI	
90		axe, fr	"Star", Luce, Stoneykirk	NX 132551	GAGM '55-96utE	VI	
91		axe, fr	"Star", Luce, Stoneykirk	NX 132551	GAGM '55-96utF	fine grained tuff	
92		axe, fr	"Star", Luce, Stoneykirk (?)	NX 132551	GAGM '55-96utG	fine grained tuff	
93		axe, fr	"Star", Luce, Stoneykirk (?)	NX 132551	GAGM '55-96utH	fine grained tuff	
94		axe, fr	"Star", Luce, Stoneykirk (?)	NX 132551	GAGM '55-96utI	VI	
95		axe, fr	"Star", Luce, Stoneykirk (?)	NX 132551	GAGM '55-96utJ	VI	
96		axe, fr	"Star", Luce, Stoneykirk (?)	NX 132551	GAGM '55-96utK	VI	
97		axe, fr	"Star", Luce, Stoneykirk (?)	NX 132551	GAGM '55-96utL	tuff	
98		axe, fr	"Star I", Luce, Stoneykirk	NX 132551	GAGM '55-96utM	fine grained tuff	
99		axe, fr	"Star", Luce, Stoneykirk	NX 132551	GAGM '55-96utN	near VI	
100		a-h	Stewarton, Sorbie	NX 447496	NMAS AH 18	XXVII	
101		a-h, I	Duplin, Balgown	NX 003700	NMAS AH 54	XXVII (XV)	
102		a-h, I	Wigtown	NX 4355	NMAS AH 81	XXVII	
103		a-h, I	Airieshassan	NX 373466	NMAS AH 82	XXVII v	
104		a-h, I	Wigtown	NX 4355	NMAS AH 83	XXIX	
105		a-h, I ?	Carleton	NX 392379	NMAS AH 84	XXVII	
106		a-h, I ?	Orchardton	NX 458498	NMAS AH 85	riebeckite, microgranite	
107		a-h, I ?	Barnhills	NW 985719	Hunt B.1914.257	porphyritic olivine basalt	
108		a-h, I	near Maryport	NX 1434	Hunt B.1951.2239	altered microgranodiorite	
109		a-h, I	Bishops Burn	NX 4061	Kelv 55-96	XXVII	
110		a-h, I	Earnsallie	NX 220557	Kelv 55-96	XXVII	
111		a-h, I	Felyennan	NX 356460	Kelv 55-98	XXVII v	
112		a-h, I	Balgracie Farm	NW 987607	Kelv 55-96	XXVII	
113		a-h, I	Glasserton	NX 4239	Dmfs 1965/362	XXVII	
114		a-h, unfin ?	Physgil	NX 4236	NMAS AH 88	near XXVII	
115		a-h, unfin	Balgown, Kirkcolm	NX 003700	NMAS AH 72	XXVII v	
116		a-h	near Portpatrick	NW 9854	NMAS AH 20	XXVIII c	
117		a-h, I, unfin	Culmore	NX 103522	NMAS AH 17	XXVII	
118		a-h, I	Dunragit	NX 154574	Kelv 55-96	altered microgranodiorite	
119		a-h, I	North Milton	NX 217547	NMAS AH 15	XXVII	
120		a-h, I	Whithorn	NX 4440	NMAS AH 226	XXVII g	
121		a-h, I	Cunningham Farm	NX 383539	NMAS AH 28	XXVII (XV)	

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
122		a-h, I ?	Longforth Farm	NX 230524	NMAS AH 252	XXVII	
123		a-h, I	Glenluce	NX 2057	NMAS AH 97	XXVII	
124		a-h, I	Drumfad	NX 371432	NMAS AH 145	XXVII	
125		a-h	Baclraig	NX 379438	NMAS AH 60	XXVII	
126		a-h, I	Barnkirk Farm	NX 4066	NMAS AH 76	XXVII	
127		a-h, I	Old Luce	NX 2257	NMAS AH 99	XXVII	
128		a-h, I	Mochrum	NX 347465	NMAS AH 118	XXVII	
129		a-h, I	Drumfad	NX 371432	NMAS AH 117	XXVII	
130		a-h, I	Glasserton	NX 4238	NMAS AH 143	XXVII	
131		a-h, I	Barr	NX 4263	NMAS AH 77	XXVII	
132		a-h	Machermore	NX 243549	NMAS AH 21	porphyritic olivine basalt	
133		a-h, I	Barness, Wigtown	NX 3954	NMAS AH 78	XXVII	
134		a-h, I	Barlure, New Luce	NX 170667	Whithorn A.4.	altered porphyritic microdiorite	
135		a-h, I	Clayshant	NX 111526	Whithorn A.5.	XXVII	
136		a-h, I	Kidsdale	NX 432366	Whithorn A.6.	XXVII g	
137		a-h, I	Alticry	NX 280499	Stran 1966/80	XXVII	
138		a-h, I	Alticry	NX 280499	Stran 1966/81	XXVII	
139		a-h, I	Farm of Culmore	NX 103523	Stran 1945.1.A	XXVII	
140		a-h, I	Balgown	NX 003700	Stran 1951/5	hear XXVII	
141		a-h, I	Kirkmaiden	NX 124404	Stran 1980/32	XXVII	
142		a-h, I	High Clone	NX 337458	NMAS AH 22	XXVII	
143		a-h, I	Torhouskie	NX 377569	NMAS AH 125	altered acid tuff	
144		a-h, I	Mye Loch	NX 098542	NMAS AH 2	XXVII	
145		a-h, I	Lochnaw Estate	NW 991628	NMAS AH 166	near XXX	
146		b-a, I-D, grooved	Sandmill Farm	NX 081617	NMAS EQ 486	altered porphyritic igneous rock	
147		b-a, I-D ?	Whithorn	NX 4440	Kelv 55-96	XXVIII (XVIII)	
148		b-a, NV	Claycrop	NX 415505	NMAS AH 28	XXVII	
149		b-a, E	Portpatrick	NX 0054	NMAS AH 45	altered granodiorite	
150		b-a, E, unfin	Kidsdale	NX 433366	Whithorn A.1.	tonalite	
151		b-a, E	Culhorn Mains	NX 084588	Stran 1964/4	XXVII	
152		a-h, I	Bishops Burn	NX 3757	NMAS AH 79	gneise (ns)	
153		a-h, I	Dowalton, Sorbie	NX 4045	Dmfs 1961/20	XXVII	
154		b-a	Inch	NX 0556	NMAS AH 113	mudstone (ns)	
155		b-a, E, miniature	Low Glengyre	NX 003670	Kelv '55-96	fine grained sandstone (ns)	

Notes

Aberdeenshire

No	Note	No	Note
41	Jope 1952. 55	11	Powell et al 1969. 330-2. no 20
43 See above		12	Powell et al 1969. 330 2. no. 10
121	PSAS 96 (1962-3) 364	13	Powell et al 1969. 330-2. no 11
129	PSAS 16 (1881-2) 176	14	Powell et al 1969. 330 2. no 19
130	PSAS 38 (1903-4) 98-9	15	Powell, et al 1969. 333 no 26. PSAS 4 (1860 21 396 cf ARG 2, 19
131	PSAS 48 (1913-4) 371	18	PPS 39 (1973, 469-71
148	Associated with a Cordoned Urn Antiq J. 7 (1927), 518 and pl lxiii 4, Proc Prehist Soc , 32. (1966). 225	19	PSAS 4 (1860 2) 396. cf ARG 2. 15

Angus

No.	Note
2	Discovery & Excavation in Scotland 1964, 1
5	ibid 1966 1
6	ibid 1966, 1
7	PSAS 13(1878-9) 306-7
8	Discovery & Excavation in Scotland 1963, 2

Arran

No	Note
1	PSAS 92 (1958-9) 56 ff
2 See above	
3 See above	
4 See above	
5 See above	
6 See above	
8	PSAS 96 (1962-3) 364
9 See above	
10 See above	

Argyllshire

No	Note
1	PSAS 92 (1958-9) 56 ff
2	cf ARG 15. 19
8	Powell et al 1969 330-2 no 14
9	Powell et al 1969. 330-2. no 9
10	Powell et al 1969. 330-2 no 13

Ayrshire

No	Note
1	PSAS 92 (1958-9) 56ff
2 See above	
4	Bloxam 1954
12	PSAS 24 (1889 90, 280
23	Associated with a Cordoned Urn PSAS 9 (1871-2). 383 pl, xxii, I, Proc Prehist Soc 32 (1966) 225 1966. 225.

244 *Lists of identifications*

No.	Note
24	Associated with a Collared Urn T G Cowie. forthcoming Glasg Archaeol J Excavation number CW77 (181). to be donated to Glasgow Museum and Art Gallery

Banffshire

No	Note
1	PSAS 92 (1958-9) 56 ff
2	PSAS 90 (1956-7) 260

Berwickshire

No	Note
1	PSAS 92 (1958-9) 56 ff
2	See above

Dumfriesshire

No	Note
1	PSAS 92 (1958-9) 56ff, TDGAS 3rd Ser 47 (1970)
2-10	See dbove
11	PSAS 92 (1958 9) 56ff
12	PSAS 92 (1958 9) 56ff. TDGAS 3rd Ser 47 (1970)
13-15	See above
16	PSAS 92 (1958 9) 56ff
18	TDGAS 3rd Ser 47 (1970)
19-24	See above
2 5	IDGAS 3rd Ser 47 (1970) PSAS 16 (1881 2) 113
2 6	TDGAS 3rd Ser 47 (1970)
27-32	See above
63	Labelled 1950/62

Dunbartonshire

No	Note
1	Trans Glasgow Archaeol Soc n s 9 (1940) 320 11. Jope 1952. 54
2	See above
8	PPS 15 (1949) 19. no 30. PSAS 38 (1903-4) 253.,

East Lothian

No	Note
2	PSAS 98 (1964-61) 332
3	PSAS 56 (1921-2) 207
4	PSAS 57 (1922-31 191
5	See above

Fife

No	Note
1	PPS 29 (1963) 165 with other references
2	Jope 1952, 55
9	Associated with a Food vessel

Islay

No	Note
2	PSAS 96 (1962-3) 364

Inverness-shire

No	Note
1	PPS 29 (1963) 166

Jura

No.	Note
1	Glasgow Archaeol J 3 (1974) 77
2	PSAS 95 (1961-2) 3II. Discovery & Excavation in Scotland 1961, 24

Kirkcudbrightshire

No	Note
1	PSAS 92 (1958 9) 56 ff
2	TDGAS 3rd ser 47 (1970),
3	PSAS 83 (1948-9) 117. 121. 137-9. PPS 17 (1951) 154, 28 (1962) 253. (as Kirk 1). 29 (1963) 136-7. 166
4	PPS 29 (1963) 166
7	TDGAS, 3rd ser 42 (1965) 149,
9	PSAS 7 (1866 8) 478
10	ibid. PPS 15 (1949) 19. no 29
11	See above
16	PSAS 36 (1901 2), 243
17	See above
18	See above
19	Trans Glasgow Archaeol Soc ns 11 (1947) 17-21, PSAS 106 11974-5) 1 ff
2 1	TDGAS 3rd ser 47 (1970)
22	See above
3 7	ibid 66 (1953) 161-2

Lanarkshire

No	Note
1	Jope 1952. 55
3	PSAS 96 (1962 3) 364
23	Trans Glasgow Archaeol Soc ns 11 (1947) 17-21. PSAS 106 (1974-5) 1 ff

Mull

No	Note
1	PSAS 100 (1967-8) 201. no 3

Orkney

No	Note
1	PSAS 92 (1958 9), 56 ff
7	Alternative NGR HY 2318

Peebleshire

No	Note
2	PSAS 18 (1883 4) 363
4	PSAS 34 (1899-1900) 434

Perthshire

No.	Note
15	Fell & Davis, this volume

Renfewshire

No	Note
2	PSAS 2 (1854-7, 308. Jope 1952, 55

Ross and Cromarty

No	Note
1	Jope 1952, 55

Selkirkshire

No	Note
1	PSAS 92 (1958-9) 56ff

Stirlingshire

No	Note
1	PSAS 92 (1958-9) 56ff

North and South Uist

No.	Note
2	PSAS 85 (1950-1) 36
3	See above
4	Jope 1952, 55
5	PSAS 85 (1950-1) 36
6	See above

West Lothian

NO.	Note
1	PSAS 82 (1947-8) 80, 123. PPS 17 (1951) 115. 120. 149. 28 (1962) 250 (as Loth (W) 1)
2	PPS 7 (1941) 58: 17 (19511 142. 28 (1962) 250 (as Low (W) 2)

Wigtownshire

N0	Note
1	PSAS 92 (1958-9) 56 ff
2	See above
41	PSAS 9 (1870-2) 445
42	PSAS 16 (1881-2) 11
43	PSAS 23 (1888-9) 8
44	ibid, 144
45	PSAS 26 (1901-2) 243
46	PSAS 48 (1913-4) 16
47	PPS 15 (1949) 19. no 28
48	PSAS 27 (1892-3) 183
50	PSAS 35 (1900-1) 149
51	PSAS 36 (1901-2) 69
52	ibid, 594
53	PSAS 38 (1903-4) 13
54	PSAS 39 (1904-5) 117
55	PSAS 59 (1924-5) 196
56	PSAS 98 (1964-6) 332
62	PSAS 11 (1874-6) 581
63	ibid. 582
65	PSAS 17 (1882-3) 328
67	PSAS 19 (1884-5) 330
68	PSAS 23 (1888-9) 96. broken and re-ground
69	ibid, 143
70	ibid, 143-4
71	PSAS 9 (1870-2) 460
72	PSAS 12 (1876-8) 119
74	PSAS 23 (1888-9) 201
75	PSAS 47 (1912-3) 10
76	PSAS 90 (1956-7) 260
79	PSAS 47 (1912-3) 10
80	PSAS 50 (1915-6) 63

Wales**Abbreviations**

Aberystwyth Ceredigion Museum, Aberystwyth
 Anglesey Anglesey Antiquarian Society collections variously at
 Antiq Soc Llangefni, Bangor, Holyhead, and Menai Bridge
 Bangor Museum of Welsh Antiquities, Bangor
 Brecon Brecknock County Museum, Brecon
 Carmarthen Carmarthenshire County Museum
 Chester Grosvenor Museum, Chester
 Haverfordwest Pembrokeshire County Museum, Haverfordwest

Llandrindod Radnorshire County Museum, Llandrindod
 Llangollen Plas Newydd Museum, Llangollen
 Merseyside Merseyside Museums, Liverpool
 NMW National Museum of Wales, Cardiff
 Rapallo Rapallo House Museum
 Rhondda Rhondda Museum, Treorchy
 St Asaph Chapter House Museum, St Asaph
 Swansea Royal Institution of South Wales, Swansea
 Welshpool Powysland Museum, Welshpool

Anglesey

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Menai Bridge, Llandysilio	SH 5572	NMW 25.155.672	VII	*
2		axe	Menai Bridge, Llandysilio	SH 5572	NMW 25.155.672	near VII	*
3		axe	Bryn yr Hen Bobl, Llanddaniel Fab	SH 518690	NMW 37.7.1	dolerite	*
4		axe	Bryn yr Hen Bobl, Llanddaniel Fab	SH 518690	NMW 37.7.2	dolerite	*
5		axe, pt	Bryn yr Hen Bobl, Llanddaniel Fab	SH 518690	NMW 37.7.3	dolerite	*
6		axe, pt	Bryn yr Hen Bobl, Llanddaniel Fab	SH 518690	NMW 37.7.4	dolerite	*
7		axe, r-o, flakes, etc	Bryn yr Hen Bobl, Llanddaniel Fab	SH 518690	NMW 37.7.5-21	VII (ns)	*
8		axe	Pentraeth	SH 5277	NMW 39.579.3	dolerite	*
9		axe	Pwll-coch Uchaf, Rhosybol	SH 425871	NMW 49.452	VII	*
10		a-h	Llanfaethlu	SH 3186	NW 33.499	XIII	*
11		b-a, IV d	Maen-gwyn, Coedana	SH 426824	NMW 39.579.8	dolerite	*
12		axe	Plas Penmynydd, Penmynydd	SH 495752	NMW 56.74	near I	*
13		b-a, III c	Tre-Iorwerth, Bodedern	SH 354801	NMW 62.168	XVIII	*
14		axe	Wern, Llandegfan	SH 551748	PP	VII	*
15		a-h	unprovenanced	-	Geol Mus London ECON .15.654	metagreywacke	*
17		axe, pt	Wern, Llandegfan	SH 550748	PP	VI	*
18		axe	Rectory, Penmynydd	SH 517749	Warrington Ra 13	VII	*
19		axe	Ysgubor Fawr, Llanaugrad	SH 508843	PP	VII	*
21		axe, pt	Castellior, Llansadwrn	SH 544742	Anglesey Antiq Soc E9	VII	*
22		axe, fr	Hendrefor, Llansadwrn	SH 552772	Anglesey Antiq Soc E17	VII	*
23		axe, fr	Castellior, Llansadwrn	SH 544742	Anglesey Antiq Soc E7 5	VII	*
24		axe, fr	Rhos Owen, Llansadwrn	SH 537762	Anglesey Antiq Soc E76	VII	*
25		a-h	Malldraeth, ?Llangadwaladr	SH 4068	Bangor	grit	*
26		axe	Llanfihangel Esceifiog	SH 495718	Bangor 2764	VII	*
27		axe	Kingsland, Holyhead Urban	SH 250815	Bangor 28.42	VII	*
28		a-h	Bodlew, Llanddaniel Fab	SH 482691	PP	metadolerite	*
29		axe, fr	Trwyn Du, Aberffraw	SH 352678	Anglesey Antiq Soc	near XXI	*
30		axe, fr	Trwyn Du, Aberffraw	SH 352678	Anglesey Antiq Soc	chert	*
31		axe, pt	unprovenanced	-	Bangor 2129	XXI	*
32		axe	nr Bryn Celli Ddu, Llanddaniel Fab	SH 5070	Bangor	VII	*
33		axe	nr Bryn Celli Ddu, Llanddaniel Fab	SH 505702	Bangor 2039	VII	*
34		axe, r-o	Refail Newydd, Llandysilio	SH 542736	Bangor 2130	VII (ns)	*
35		axe	Llaneilian	SH 4791	Bangor 2841	VI	*
36		axe, pt	Holo-gwyn, Llanddaniel Fab	SH 506710	Anglesey Antiq Soc	VII	*
37		axe, pt	Holo-gwyn, Llanddaniel Fab	SH 506710	Anglesey Antiq Soc	VII	*
38		axe	Rhos-y-gath, Llanfairpwllgwyngyll	SH 525715	Anglesey Antiq Soc	greywacke	*
39		axe	Bwlch, Pentraeth	SH 525774	Bangor 2775.5	VII	*
40		axe	Unprovenanced	SH	Bangor 2775 2	altered shale	*
41		axe	Unprovenanced	SH	Bangor 2775.4	VI	*
42		axe, r-o	Llwydiarth Esgob, Llandyfyrdog	SH 435845	Bangor 2775.1	near XXI	*
43		hammer, pt, pt perf	Holo-gwyn, Llanddaniel Fab	SH 506710	Anglesey Antiq Soc	grit	*
44		a-h	Cae'r-meirch, Bodedern	SH 330796	Bangor 12.44	dolerite	*
45		a-h	Llwydiarth Esgob, Llandyfyrdog	SH 435845	Bangor 2775	XII	*
46		a-h	Cadnant estate, Llandysilio	SH 5573	Bangor 27.47	dolerite	*
47		pebble mace	Hendrefor, Llansadwrn	SH 549770	Bangor JG 37	dolerite	*
48		axe, pt	Newborough Warren, Newborough	SH 3964	CUM	VII	*
49		axe, pt	Castellior, Llansadwrn	SH 544742	NMW 54.273.1	VII	*
50		axe, r-o ?, fr	Trwyn Du, Aberffraw	SH 352678	Anglesey Antiq Soc	crystal tuff	*
51		hammer	Cae-Elen, Llanfair-yn-Neubwll	SH 304769	Anglesey Antiq Soc	greywacke	*
52		axe	Kingsland, Holyhead Urban	SH 250815	Bangor 2907	VII (ns)	*
53		flake	Trwyn Du, Aberffraw	SH 352678	PP	VIII	*
54		flake	Trwyn Du, Aberffraw	SH 352678	PP	VIII	*
55		axe, r-o	Llandyfyrdog	SH 443852	PP	VII	*
56		axe	County Hospital, Llangefni	SH 463757	PP	quartz dolerite	*
57		axe, r-o	Trwyn Du, Aberffraw	SH 352678	Gwynedd Archaeol Trust	crystal tuff	*
58		axe, fr	Din Dryfol burial chamber, Aberffraw	SH 395724	PP	crystal tuff	*

No.	ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
59		a-h, pt	Llwydiarth Esgob, Llandyfrydog	SH 435845	PP	gabbro	
60		axe	Penrhyn Gwyn, Llanddaniel Fab	SH 480697	PP	near VIII	
61		axe	Red Wharf Bay, ? Pentraeth	SH 5279	Manchester 0.1479	VII	

Breconshire

No.	Ser	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Upper Paper Mill, Llangenny	SO 2417	NMW 18.152.2	argillite (ns)	*
2		axe	Upper Paper Mill, Llangenny	SO 2417	NMW 18.152.3	argillite (ns)	*
3		axe	Upper Paper Mill, Llangenny	SO 2417	NMW 18.152.4	argillite	*
4		axe	Trebinshun, Llangasty-Talyllyn	SO 137242	NMW 42.24	VIII	*
5		axe, r-o, pt	Llanelly	SO 2314	NMW 30.340.1	chert (ns)	*
6		axe	Mynydd y Drum, Ystradgynlais Lower	SN 826097	NMW 32.218	cretaceous flint	
7		axe	Llanwrtyd	SN 8746	Brecon R.1.018	VII	*
8		a-h	Erwood, Crickadarn	SO 0942	Brecon R.110	grit	
9		axe, pt	'near Brecon'	SO 02	PP	VIII	
10		axe	Builth Wells	SO 0350	NMW 59.380	XXIII a	*
11		a-h	Llanfihangel Cwmdru	SO 1824	Brecon	XII	*
12		a-h	Unprovenanced	-	Abergavenny	XII	*
13		axe, fr	Cefn-y-maes, Penderyn	SN 999117	PP	VII	*
14		pebble mace	Buckland Old Mill, Llansantffraed	SO 134201	PP	XXIII b	*
15		axe	Pennant, St John the Evangelist	SO 024293	Brecon	XXIII b	*
16		axe, pt	Gader Fawr, Llanelieu	SO 231286	Brecon	near XXI	*
17		axe	Three Cocks, Aberllynfi	SO 183374	NMW	VI	*
18		axe, pt	Gilwern, Llanelly	SO 2414	PP	VIII	*
19		axe, pt	Gwernvale chambered tomb, Crickhowell	SO 211192	Clwyd-Powys Archaeol Trust	crystal tuff	
20		axe, fr	Chwarel y Fan, Llanelieu	SO 253293	NMW 76.32H	siliceous tuff	*
21		hammer	'near Brecon'	SO 02	NMW 44.315.1	epidiorite	*
22		adze	Gader Fawr, Llanelieu	SO 231285	PP	chart (North Wiltshire)	*
23		axe	Upper Paper Will, Llangenny	SO 2417	NMW 18.152.1	flint (ns)	*
24		axe	River Bridge, Builth	SO 043512	Brecon	flint (ns)	*
25		axe	River bank, Crickhowell	SO 199197	NMW 42.278	flint (ns)	*

Caernarvonshire

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Chwilog, Llanystumdwy	SH 4338	NMW 11.106	felsite	*
2		axe, pt	Caernarvon, Llanbeblig	SH 4863	NMW 25.155.72a	porphyry	*
3		axe	Bwlch y Ddeufaen, Caerhun	SH 714718	NMW 25.195	near VII	*
4		axe	Segontium, Llanbeblig	SH 485624	NMW 38.753.2	near VII (augite andesite)	*
5		axe	Segontium, Llanbeblig	SH 485624	NMW 38.753.3	rhyolite	*
6		axe	Segontium, Llanbeblig	SH 485624	NMW 38.753.4	micaceous sandstone	*
7		axe	Garddlygaid-y-dydd, Beddgelert	SH 605457	NMW 49.246	XXI	*
8		axe, pt	Llechau-uchaf, Conway	SH 756755	NMW PP	VII	*
9		a-h	Trygarn, Botwnnog	SH 243313	NMW 36.273	dolerite	*
10		adze	Castellmai, Waunfawr	SH 498606	NMW 38.753.6	porphyritic basalt	*
11		a-h	Penmaenmaer, Dwygyfylchi	SH 7176	NMW 47.164.141	gabbro	*
12		pebble mace	Segontium, Llanbeblig	SH 485624	NMW 38.753.7	quartzite	*
13		b-a, III b	Tremorfa, Henryd	SH 780737	NMW 58.516	greywacke	*
14		misc, spearhead	'S E, Caernarvonshire'	-	NMW 27.207	trachyte	*
15		axe, r-o	Abersoch, Llanengan	SH 305268	NMW 54.272	XXI	*
16		pebble mace	Carmel, Llandwrog	SH 4855	Penygroes Sch	greywacke	*
17		mace, cushion, pt	Carreg yr Imbill, Denio	SH 386342	NHW 63.19	ash	*
18		axe	Sychnant Pass, Dwygyfylchi	SH 747770	NMW 64.273	VII	*
19		axe	Mynydd Tirycwmwd, Llanbedrog	SH 336309	PP	VII	*
20		axe	Crib Goch, Llanberis	SH 6255	NMW 69.151	VII	*
21		axe, pt	Gannock Park, Llanrhos	SH 780792	Rapallo House	VII	*
22		axe, fr	Great Ormes Head, Llandudno-cum-Eglwysrhos	SH 7584	PP	VII	*
23		axe, r-o	Caer-Rhun Hall, Caerhun	SH 772708	Dolgarrog Sch	VII	*
24		axe	Llandudno	SH 7882	Pitt-Rivers. Oxford, Misc XI 44	VI	*
25		axe	Plas Mariandir., Llanhros	SH 784800	Rapallo House	VI	*
26		axe	Vardre, Llanhros	SH 785795	Rapallo House	dolerite	*
27		axe	Brynkir Hall, Dolbenmaen	SH 522456	Bangor 25.41	gabbro	*
28		b-a, III b	Talymignedd, Llanllyfni	SH 530530	Bangor	gabbro	*
29		pebble mace	Canovium, Caerhun	SH 776704	Rapallo House	dolerite	*
30		pebble mace	Abbey Road, Llandudno-cum-Eglwysrhos	SH 7782	Rapallo House	sandstone	*
31		pebble mace	Bodidda, Henryd	SH 767757	Rapallo House	grit	*
32		axe	Tafarn Faig, Dolbenmaen	SH 483464	PP	hornfels	*
33		a-h	Moel Wnion, Aber	SH 6570	PP	gabbro	*
34		a-h	Tre'r Ceiri, Llanaelhaearn	SH 3744	PP	uralitised syenite	*
35		pebble mace	Glasfryn, Llanystumdwy	SH 4042	PP	feldspathic ash	*
36		hammer, unperf	Tafarn Faig, Dolbenmaen	SH 4846	PP	quartzite	*
37		pebble mace	Tafarn Faig, Dolbenmaen	SH 4846	PP	cryptographic rhyolite	*
38		ball	Carreg y Llam fort, Pistyll	SH 334435	NMW	metamorphic dolerite	*
39		ball	Carreg: y Llam fort, Pistyll	SH 334435	NMW	arkose grit	*
40		a-h	Crymllwyn, Llannor	SH 380399	Bangor	volcanic ash	*
41		a-h	Foel Dryll, Clynngog	SH 444510	PP	ophitic dolerite	*
42		axe, pt	Cwm Howard, Llandudno-cum-Eglwysrhos	SH 787808	Creuddyn Hist & Natu r Hist Soc	VII	*
44		axe	Broom Hall estate, Llanystumdwy	SH 4137	Bangor 18.46	XI	*

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
45		flake	Mynydd Carnguwch, Pistyll	SH 377430	CBA	granophyric syenite	*
46		flake	Carn Fadrun, Tudwelliog	SH 275351	CBA	granophyric syenite	*
47		flake	Mynydd Rhiw, Botwnnog	SH 234299	CBA	XXI	*
48		axe, pt	Rhaiadr Fawr, Aber	SH 668701	PP	VII	*
49		a-h	Broom Hall estate, Llanystumdwy	SH 4137	Bangor 23.46	ophitic gabbro	*
50		a-h	Parish church, Llanrhydwyn	SH 775616	Bangor JG 33	grit	*
51		a-h, pt	Gogarth, Llanduano-cum-Eglwysrhos	SH 760829	NMW	metadolerite	*
52		pebble mace	Trefriw	SH 780630	PP	ophitic dolerite	*
54		a-h	Caernarvon, Llanbeblig	SH 4863	Bangor JG 33a	ophitic olivine dolerite	*
56		axe, r-o	Dinas Dinlle, Llandwrog	SH 435563	Bangor 17.50	VII	*
57		a-h	College Farm, Aber	SH 6573	Bangor 29.51	hornblende porphyrite	*
58		a-h	Tregarth, Llandegai	SH 607670	Bangor 686	dolerite	*
59		a-h	Park Nant, Llanfairfechan	SH 694740	Bangor 4007.33	dolerite	*
60		a-h	Camarnaint, Llanfairfechan	SH 699734	Bangor 4007.35	dolerite	*
61		pebble mace	Wern, Llanbedrycennin	SH 754697	Bangor 3031	arkose grit	*
62		misc, core tool	Porth Bach, Llanengan	SH 320260	PP	near XXI	*
63		axe, r-o	Graig Lwyd, Dwygyfylchi	SH 718755	NMW 21.79.48	VII	*
64		axe	Penmaenmawr town, Dwygyfylchi	SH 7176	PP	VII	*
65		axe, r-o	Foel Lwyd, Llanfairfechan	SH 720725	Chester 26.P.53	VII (ns)	*
66		axe, r-o	Foel Lwyd, Llanfairfechan	SH 720725	Chester 25.P.53	VII (ns)	*
67		axe, r-o	Carreg Fawr, Llanfairfechan	SH 690735	PP	VII	*
68		axe, r-o	West Parade, Llandudno-cum-Eglwysrhos	SH 768822	PP	VII	*
69		axe or knife	Kendrick's Cave, Llandudno-cum-Eglwysrhos	SH 780828	BM 1959.12-3.4	sheared epidiorite	*
70		axe, r-o	Monument No. 280, Dwygyfylchi	SH 721746	NMW 64.56.1	VII	*
71		flake	Rhiw, Aberdaron	SH 2328	PP	crystal tuff	*
72		flake	Parwyd, Aberdaron	SH 154244	lost	recrystallised tuff	*
73		a-h	Ty'n-llwyfan, Llanfairfechan	SH 695741	NMW 30.491.4	greywacke	*
74		a-h	Aberdaron	SH 174268	NMW 53.360	altered dolerite	*
75		hammer pt pet-f	W, slopes of Snowdon, Beddgelert	SH 5954	NMW 55.350.1	greywacke	*
76		flake	Garn Fadrun, Tudwelliog	SH 275351	PP	granophyric syenite	*
77		axe, r-o	Dinas, Llanfairfechan	SH 700740	Manchester	VII	*
78		axe, fr	Mynydd Rhiw, Aberdaron	SH 239295	lost	flint (ns)	*
79		scraper	Mynydd Anelog, Aberdaron	SH 152272	NMW 52.67	VIII	*
80		axe, r-o	Graig Lwyd, Dwygyfylchi	SH 718755	NMW 21.79.58	VII	*
81		pebble mace	Aberglaslyn Hall, Beddgelert	SH 594461	Bangor 3.44c	greywacke	*
82		pebble mace	Abererch, Llannor	SH 397366	PP	greywacke	*
83		misc, slab, fr	Penllystyn Roman fort, Dolbenmaen	SH 481449	NMW	porphyrite	*
84		flake, no polish	Penllystyn Roman fort, Dolbenmaen	SH 481449	NMW	porphyritic rock	*
85		rotary quern, lower stone	Penllystyn Roman fort, Dolbenmaen	SH 481449	NMW	granite	*
86		rotary quern, top stone fr	Penllystyn Roman fort, Dolbenmaen	SH 481449	NMW	sandstone	*
87		rotary quern, top stone, pt	Penllystyn Roman fort, Dolbenmaen	SH 481449	NMW	deformed quartzite	*
88		quern, fr	Penllystyn Roman fort, Dolbenmaen	SH 481449	NMW	lava (Rhineland) (ns)	*
89		quern, fr	Penllystyn Roman fort, Dolbenmaen	SH 481449	NMW	lava (Rhineland) (ns)	*
90		axe	Cwm Coryn, Llanaelhaearn	SH 403452	PP	siliceous crystal tuff	*
91		flake, no polish	Tynnewydd, Llandegai	SH 592710	NMW	tuff	*
92		hone	Tynnewydd, Llandegai	SH 594712	NMW	greywacke	*
93		flake, no polish	Tynnewydd, Llandegai	SH 594712	NMW	recrystallised tuff	*
94		flake	Tynnewydd, Llandegai	SH 594712	NMW	hornfels	*
95		misc, ring, fr	Tynnewydd, Llandegai	SH 594712	NMW	siliceous tuff	*
96		axe	Tynnewydd, Llandegai	SH 594712	NMW 78.20H.4	VI	*
97		flake, no polish	Tynnewydd, Llandegai	SH 592712	NMW	VII	*
98		flake, no polish	Tynnewydd, Llandegai	SH 594710	NMW	VII	*
99		polisher	Tynnewydd, Llandegai	SH 594712	NMW	VIII ? (siliceous tuff)	*
100		flake, no polish	Tynnewydd, Llandegai	SH 594712	NMW	crystal tuff	*
101		flake, no polish	Tynnewydd, Llandegai	SH 592710	NMW	crystal tuff	*
102		flake, no polish	Tynnewydd, Llandegai	SH 592710	NMW	VII	*
103		flake, no polish	Tynnewydd, Llandegai	SH 592710	NMW	VII	*
104		AXE, FR	Tynnewydd, Llandegai	SH 592710	NMW	VII	*
105		flake, no polish	Tynnewydd, Llandegai	SH 592710	NMW	VII	*
106		flake, no polish	Tynnewydd, Llandegai	SH 592710	NMW	crystal tuff	*
107		axe, fr	Tynnewydd, Llandegai	SH 592710	NMW	tuff	*
108		flake, no polish	Tynnewydd, Llandegai	SH 594711	NMW	crystal tuff	*
109		mace, ovoid C	Abererch, Llannor	SH 397366	PP	greywacke	*
110		axe, fr	cist Gerrig, Dolbenmaen	SH 542382	PP	recrystallised tuff	*
111		axe, r-o	The Close, Llanfairfechan	SH 684748	PP	VII	*
112		axe, r-o	Foel Lwyd, Llanfairfechan	SH 715724	Salford 78.21.5	near VII	*
113		axe	Kendrick's Lave, Llandudno-cum-Eglwysrhos	SH 780828	BM 1956.2-2.1	VII variety	*
114		axe	Ianmor Isaf, Llanllechid	SH 620723	PP	crystal tuff	*
115		axe	Ty'n-rhos, Aberdaron	SH 192301	Bangor	XXI variety	*
116		axe, r-o	Ty'n-y-pwll, Aberdaron	SH 197296	Bangor	siliceous tuff	*
117		axe, r-o	Mynydd Rhiw, Botwnnog	SH 233299	PP	XXI variety	*
121		axe	unprovenanced	SH	NMW 71.9H	quartz dolerite	*
122		axe, pt	Llanbedrog	SH 3332	PP	VII	*

Cardiganshire

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Pencraig-ddu nines, Melindwr	SN 703816	NMW 25.203.2	VII	*
2		axe	Pen Dinas, Aberystwyth	SN 583802	NMW 47.164.94	XXI	*
4		axe	Ffosrhydgaled, Llanychaïarn	SN 578765	NMW 47.164.98	rhyolite	*
5		axe ?	Castell Bwa-drain, Cwmrheidol	SN 716793	NMW 47.164.99	siltstone	*
5		axe	Pontrhydfendigaid, Caron-uwch-c-lawdd	SN 7366	NMW 47.164.100	greywacke	*
7		axe	Bwlchyddwyallt, Caron-uwch-claw-dd	SN 710633	NMW 47.164.101	XXIII b	*
8		a-h	nr Llyn Eiddwen, Llangwryfon	SN 6168	NMW 33.548	sub-ophitic dolerite	*
9		a-h	Cwrt Mawr, Llangetho	SN 622619	NMW 33.540	altered granophyric porphyrite	*
10		a-h	Glan Ystwyth, Lower Llanfihangel y Creuddyn	SN 642752	NMW 47.164.142	XII	*
11		mace, ovoid C	Dolfor Wood, Lower Lledrod	SN 665703	NMW 47.164.146	XXIII b	*
12		pebble mace	Llwyndryys quarry, Llandygwydd	SN 238433	NMW 39.563.5	rhyolitic ash	*
13		axe	Nant-llwyd, Caron-is-clawdd (?)	SN 6859	NMW 52.299.1	I	*
14		axe	Troed-y-rhiw, Penbryn	SN 299524	NMW 53.378	welded tuff	*
15		a-h	Tafarn-crug Isaf, Upper Llanbadarn y Creuddyn	SN 652785	NMW 64.577	XII	*
16		axe	Llanio, Llanddewi Brefi	SN 544553	PP	rhyolitic ash	*
17		axe, fr	Llwyn-y-groes, Gartheli	SN 594565	Tregaron County Sec Sch	rhyolitic ash	*
18		mace, sceptre	Llanddewl Brefi	SN 657541	Tregaron County Sec Sch	sandstone	*
19		axe	Cefngranod, Penbryn	SN 303518	NMW 72.18H	VIII	*
20		axe	Aberaeron (?)	SN 4562	NMW 33.279	flint (ns)	*
21		pebble mace	Rhiw-goch, Cwmrheidol	SN 75381	pp	near XIII (sub-ophitic gabbro)	*
22		pebble mace	Ffynnon-wen, Cwmrheidol	SN 722794	PP	conglomerate	*
23		pebble mace	Penuwch, Llangetho	SN 610634	PP	greywacke	*
24		axe, r-o ?	Goginan, Cwmrheidol	SN 697805	RCAHM Wales	baked shale	*
25		a-h, pt	Penlan, Upper Lledrod	SN 679658	Tregaron C.S.Sch.	XIII	*
26		a-h	Penlan, Upper Lledrod	SN 679658	Tregaron C.S.Sch.	XII	*
27		wedge, perf	Llwyn-rhys, Llanbadarn Odwyn	SN 640598	Tregaron C.S.Sch.	arkose grit	*
28		wedge, double, perf	Penuwch, Llangetho	SN 5962	Tregaron C.S.Sch.	arkose grit	*
29		pebble mace	Ffosgoy, Lower Lledrod	SN 652688	Tregaron C.S.Sch.	coarse grit (ns)	*
30		hammer, unperf	Pantdafad, Llangetho	SN 599626	Tregaron C.S.Sch.	gannister	*
31		axe	Unprovenanced	SN	Tregaron C.S.Sch.	IX	*
32		axe, fr	Penlanoleu, Parcel Canol	SN 667810	PP	altered dolerite	*
33		axe	Banc y Garn, Trefeirig	SN 707843	Carmarthen 26.1631	biotite hornblende schist	*
34		axe	Ty'nryhelig, Llanrhytyd Hamini-og	SN 555681	Test	near VIII (recrystallised tuff)	*
35		axe	Ffnnant Ganol, Llanwenog	SN 524462	Univ. Coll Wales Arch-aeol Dept	partly recrystallised tuff	*
36		axe	Allt-lwyd beach, Llansantffraid	SN 514682	pp	VIII	*
37		axe	Towyn Warren, Verwig	SN 162489	pp	greywacke	*
38		axe	Rhiw-sion Isaf, Llanwenog	SN 500468	NMW 37.702	flint (ns)	*
39		axe	Castell-du, Llanwnen	SN 531468	PP	VIII	*
40		axe ?	Castell-du, Llanwnen	SN 530468	PP	VIII	*
41		axe	Llain-wen, Llanllwchaïarn	SN 387550	PP	VIII	*
42		a-h	Penprys, Ysguborycoed	SN 713941	Merseyside 1966-326	XII	*

Carmarthenshire

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		b-a, II c	Hebron, Cilywaenllwyd	SN 181277	NMW 11.138	ophitic olivine dolerite	*
2		a-h	Afon Cib, Llandeilo-fawr Rural	SN 663216	NMW 47.143	greywacke siltstone	*
3		a-h	Llandovery, Llandoget Within (?)	SN 7634?	Llandovery High Sch	XII	*
4		axe, fr	Trawslwyndu, Myddfai	SN 825295	PP	XXI	*
5		axe, pt	Castell Toch, Llanddowror	SN 253113	Carmarthen A 76.1055	VIII	*
6		axe	Dynevor Castle, Llandyfeisant	SN 614224	NMW 63.469.1	rhyolitic ash	*
7		axe, pt	Gilgell Ganol, Pencarreg	SN 569457	NMW 69.122	acid welded tuff	*
8		axe	Garnbica quarry, Llanddarog	SN 517145	NMW 70.30H	VIII	*
9		axe	Parcyffynnon, Abergwlly	SN 465225	PP	flint (ns)	*
10		axe, pt	County School, Ammanford Urban	SN 630120	NMW 30.391	flint (ns)	*
11		axe	Ael-y-bryn, Cilymaenllwyd	SN 164278	NMW 77.14H	VIII	*
12		a-h	Glantowy, Llanegwad	SN 536212	PP	altered igneous rock	*
13		axe, pt	Dollderwydd, Eglwyscumin	SN 235158	Carmarthen 80.27	near VIII	*
14		axe	Whitland area	SN 2016?	Carmarthen 80.31	igneous rock	*
15		ax*	Whitland area	SN 2016?	Carmarthen 80.32	crystal tuff	*
16		axe	Whitland area	SN 2016?	Carmarthen 80.30	igneous rock	*
17		axe	Pistyll-gwyn, Llanboidy	SN 232200	Carmarthen 80.29	near VII	*
18		axe	Parcau, Henllanfallteg	SN 178198	Carmarthen 80.28	near VII	*
19		a-h	Llan, Henllanfallteg	SN 168204	Tenby A 6	silicified tuff	*
21		flake	Meini Gwyr circle, Llandissilio East	SN 142266	RCAHM Wales	artificial atone	*
22		a-h	Kidwelly	SN 4106	NMW	partly silicified tuff	*
23		b-a, II a	Berth-lwyd, Trelech a'r Betws	SN 287286	Carmarthen	XIII	*
24		axe	Bishops-court Fawr, Llanddowror	SN 266150	Carmarthen 34	metamorphosed ultrabasic rock	*
25		axe, r-o	Llandeilo Urban	SN 6222?	Carmarthen 17.432	VIII	*
26		axe	Tre-fach, Llanwinio	SN 229266	Carmarthen	VIII	*
27		axe	Unprovenanced	SN	Carmarthen	flint (ns)	*
28		race, cushion	Cilfachygeision, Cenarth	SN 293332	Carmarthen	albitised spessartite	*
29		axe	Llanfair-ar-y-bryn	SN 8040?	Carmarthen	glaucophan rock	*
30		axe	Garn-wen, Cilymaenllwyd	SN 169289	Carmarthen 28.1815	albitised dolerite	*
31		axe	The Pill, Laugharne Township	SN 302107	Carmarthen 308	albitised dolerite	*
32		axe	by railway, Llandeilo Urban	SN 633224	Carmarthen	quartz dolerite	*
33		a-h	Caledfwlch, Llandeilo-fawr Rural	SN 6525	Carmarthen	albitised dolerite	*
34		a-h	March-gwyn, Cilymaenllwyd	SN 152243	Carmarthen 34.3297	albitised dolerite	*

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
35		axe	Gwyddfagatw, Llanegwad	SN 515267	Carmarthen 1341	albitised quartz dolerite	*
36		axe	Llangendeirne	SN 41	Carearthen	dolerite	*
37		race, Thames pestle	Carmarthen gasworks, St, Peter	SN 4120	Carmarthen 1470	partly albitised dolerite	*
38		axe	Pen-y-garn, Llanegwad	SN 5222?	Carmarthen 33.3256	flint (ns)	*
39		axe, fr	Coygan Camp, Llanddowror	SN 284093	NMW	near VIII	*
40		axe, pt	Coygan Camp, Llanddowror	SN 284093	NMW	porphyritic igneous rock	*
41		axe	Coygan Camp, Llanddowror	SN 284093	NMW	tuff	*
42		axe, fr	Coygan Camp, Llanddowror	SN 284093	NMW	near VIII	*
43		axe ?, pt	Coygan Camp, Llanddowror	SN 284093	NMW	sandstone	*
44		b-a, III a	Cumfelin Mynach, L Lanboidy?	SN 228248	PP	dolerite	*
45		race, ovoid C, pt	Y Ddol, Llanboidy	SN 227233	PP	areywake	*
46		axe, r-o	Crug-glas, LLangadog	SN 690234	PP	VIII	

Denbighshire

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Tynewydd, Llansilin	SJ 207270	NMW 21.24.28	VI	*
2		axe	Brynau, Llandegla	SJ 177522	NMW 26.51	VII	*
3		axe	Rhosddigre Cave, Llandegla	SJ 183525	NMW 29.607.4	VII	*
4		axe	Rhosddigre Cave, Llandegla	SJ 183525	NMW 29.607.5	near VII	*
6		axe, r-o	Caeau Cochion, Llanfair Dyffryn Clwyd ?	SJ 1353?	NMW 38.753.5	VII	*
7		axe	Rhos Fynach, Llandrillo-yn-Rhos	SH 842811	NMN 44.315 2	glaucofane diorite	*
8		axe	Johnstown, Rhosllanerchrugog	SJ 302459	NMW 52.177	I	*
9		axe	Coed Cochion, Llanfair Dyffryn Clwyd	SJ 137542	NMW 38.753.1	chert (ns)	*
10		mace, cushion	Brynhafof, Llansilin	SJ 205322	NMW 33.414	quartz feldspar tuff	*
11		b-a, II a, miniature R,	Clywedog, Wrexham Regis	SJ 339485	NHW 59.217	monzonite plutonic rock	*
12		axe	Rhos Isaf, Llandegla	SJ 185531	NMW 64.434	andesitic ash	*
13		a-h, pt	Pant Llestri, Llanellian-yn-Rhos	SH 854740	NMW 66.298	xv	*
14		b-a, V e, pt	Hafod-yr-haidd, Llansantffraid Glynceiriog	SJ 211386	Llangollen	XV	*
15		mace, cushion, pt	Plas Tyno, Llandegla	SJ 192525	PP	sheared epidiorite	*
16		mace, ovoid B	Wern, Llanbedr	SJ 131599	NMW 69.220	olivine dolerite	*
17		axe	Perthillywydion, Efenechtyd	SJ 097542	NMW 76.8H	tuff	*
18		axe, r-o	Alltgybydd, Llandegla	SJ 206547	PP	VII	*
19		race, ovoid B/Maes-mawr	Maes-mawr estate, Llangwm ?	SJ 0144?	NMAS	chalcedony (ns)	*
20		a-h	Eyton, Erbistock	SJ 355446	PP	xv	*
21		axe	Coedfa, Llanrwst Rural	SH 799557	PP	VII	*
22		pebble mace	Rhiw Ial, Llanarmon-yn-Ial	SJ 186569	Chester 506.1928	ash	*
23		axe	Ruthin (?)	SJ 1258?	Chester 311.P.54	hornblende metadolerite	*
24		mace, ovoid B	R, Iwrch, Llanrhaed-ym-Mochnant	SJ 144248	Welshpool	XXIII b	*
25		race, Thames pestle	Hafod Lom, Cerrigydrudion	SH 981547	St. Asaph	greenstone	*
26		axe, pt	Trevor Hall, Llangollen Rural	SJ 261423	Llangollen	VII	*
27		axe, pt	Pentrefelin, Llanrhaeadr-ym-Mochnant	SJ 1624	PP	partly uraltised gabbro	*
29		axe	Pengwern Vale, Llangollen Urban	SJ 234409	PP	greywacke	*
30		axe, pt	Ty'n-lon, Trefnant	SJ 072698	St.Asaph	flint (ns)	*
31		axe, pt	Colwyn Bay, Llandrillo-yn-Rhos	SH 8479?	St.Asaph	VII	*
32		axe	Pen-y-fron, Llanrwst Urban	SH 807620	St.Asaph	VII	*
33		axe	Farmyard, Llanrwst Rural	SH 829634	St.Asaph	VII	*
34		a-h	Plas Isaf, Llangernyw	SH 894707	St.Asaph	altered ophitic dolerite	*
35		pebble mace	Pen-y-fron, Llanrwst Urban	SH 808621	St.Asaph	greywacke	*
36		axe	Coedfa, Llanrwst Rural	SH 799557	St.Asaph	VII	*
37		axe, r-o	Darland, Allington	SJ 380581	Chester 26.P 66	VII	*
38		axe, pt	Eglwyseg Rocks, Llanelollen Rural	SJ 228432	PP	siltstone	*
39		a-h	Pant Idda, Abergele Rural	SH 923754	PP	XII	*
41		b-a, II b	Vron Fox, Llandymnog	SJ 117678	PP	greywacke	*

Flintshire

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1a		axe, fr	Dyserth Castle	SJ 060799	NMW 15.249.12	VI	*
1b		axe, fr	Dyserth Castle	SJ 060799	NMW 15.249.13	VI	*
1c		axe, fr	Dyserth Castle	SJ 060799	NMW 15.249.14	XXI	*
2		axe, fr	Dyserth Castle	SJ 060799	NMW 15.249.7	VI	*
3a		axe, fr	Bryn Llwyn, Gwaenysgor	SJ 072815	NMW 15.249.147	VI ? (ns)	*
3b		axe, fr	Bryn Llwyn, Gwaenysgor	SJ 072815	NMW 15.249.148	XXI ?	*
3c		axe, fr	Bryn Llwyn, Gwaenysgor	SJ 072815	NMW 15.249.149	VII	*
3d		axe, fr	Bryn Llwyn, Gwaenysgor	SJ 072815	NMW 15.249.150	VII ?	*
3e		axe, fr	Bryn Llwyn, Gwaenysgor	SJ 072815	NMW 15.249.151	VII	*
3f		axe, fr	Bryn Llwyn, Gwaenysgor	SJ 072815	NMW 15.249.152	VI	*
3e		axe, fr	Bryn Llwyn, Gwaenysgor	SJ 072815	NMW 15.249.153	VI	*
3h		axe, fr	Bryn Llwyn, Gwaenysgor	SJ 072815	NMW 15.249.154	VII	*
3i		axe, fr	Bryn Llwyn, Gwaenysgor	SJ 072815	NMW 15.249.155	VII	*
3j		axe, fr	Bryn Llwyn, Gwaenysgor	SJ 072815	NMW 15.249.156	XXI	*
4a		axe, fr	Bryn Llwyn, Gwaenysgor	SJ 072815	NMW 16.114.7	VII	*
4b		axe, fr	Bryn Llwyn, Gwaenysgor	SJ 072815	NMW 16.114.8	VII	*
5a		axe, fr	Bryn Llwyn, Gwaenysgor	SJ 072815	NMW 16.114.12	VII	*
5b		axe, fr	Bryn Llwyn, Gwaenysgor	SJ 072815	NMW 16.114.13	VII	*
5c		axe, fr	Bryn Llwyn, Gwaenysgor	SJ 072815	NMW 16.114.14	XXI	*
6		axe, fr	Roman station, Prestatyn	SJ 062818	NMW 37.253	VI	*
7		axe, fr	Foreshore, Rhyl	SJ 022826	NMW 44.315.5	VII	*
8		axe, pt	Foreshore, Rhyl	SJ 022826	NMW 44.315.6	VII	*
9		axe, r-o	Gop Cave, Trelawnyd	SJ 087800	NMW 47.101.1	VII	*
10		axe	Foreshore, Rhyl	SJ 022826	NMW 47.101.2		*

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
11		mace, ovoid ore	B/Maesm- Y Fron, Mold Rural	SJ 218640	NMW 47.349	quartzite	*
12		axe	Vicarage, Rhuddlan	SJ 022784	Prestatyn	VII	*
13		pebble	Aberconway Park, Prestatyn	SJ 075828	PP	greywacke	*
14		axe	Celyn, Northop	SJ 237686	PP	flint (ns)	*
15		axe	Lixwn, Ysceifiog	SJ 175703	PP	siliceous tuff	*
16		axe	? Flintshire		Clwyd Record Office	altered mudstone	*
17		axe	Parc Gwelfor, Dyserth	SJ 056795	PP	VII	*
21		axe, fr	Bryniau, Dyserth	SJ 065803	Prestatyn	VII	*
22		axe	Talar-goch, Dyserth	SJ 057805	Rapallo House	ophitic dolerite	*
23		axe, fr	Dyseth Castle	SJ 060799	Prestatyn	VI	*
24		axe, fr	Dyseth Castle	SJ 060799	Prestatyn	VI	*
25		axe, fr	Dyseth Castle	SJ 060799	Prestatyn	recrystallised ash	*
26		whetstone	Terfyn, Prestatyn	SJ 084833	Cheter 202	ash	*
27		flake	Gop Cave, Trelawnyd	SJ 087800	NMW 47.101.31b	silicified shale	*
28		axe	Churchyard, Prestatyn	SJ 068827	St Asaph	welded siliceous tuff	*
29		axe, pt	Groes-faen Bach, Ysceifiog	SJ 147728	St Asaph	flint (ns)	*
30		axe	Moel Hirraddug, Cwm	SJ 064784	PP	flint	*
31		axe, pt	Moel Hirraddug, Cwm	SJ 064784	PP	VII	*
32		axe, pt	Moel Hirraddug, Cwm	SJ 064784	PP	VII	*
33		a-h	Mynydd Isa, Hold Rural	SJ 257643	PP	altered dolerite	*
34		axe, fr	Moel Hiraddug, Cwm	SJ 064784	PP	VII	*
33		axe, fr	Moel Hiraddug, Cwm	SJ 064784	PP	VII	*
36		axe, fr	Moel Hiraddug, Cwm	SJ 064784	PP	VII	*
37		axe, fr	Moel Hiraddug, Cwm	SJ 064784	PP	VII (ns)	*
38		Supposed axe, pt	Moel y Gaer, Northop	SJ 210690	Clwyd-Powys	Recrystallised sediment	*

Glamorganshire

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Penlline Moor, Penllyn	SS 9876	NMW 82.23	porphyritic andesite	*
2b		axe, fr	Merthyr Mawr Warren	SS 8677	NMW 04.144.1	XXI ?	*
2c		axe, fr	Merthyr Mawr Warren	SS 8677	NMW 04.144.2	VIII	*
2i4		axe, fr	Merthyr Mawr Warren	SS 8677	NMW 01.367.13d	andesitic ash	*
2j2		axe, fr	Merthyr Mawr Warren	SS 8677	NMW 01.138.20b	XXI	*
3		axe	Colhugh, Llanwit Major	SS 9567	NMW 01.327	andesitic ash	*
4		axe, pt	Merthyr Mawr Warren	SS 850770	NMW 01.352	VII	*
5		axe, pt	Paviland Cave, Rhossili	SS 437858	NMW 15.277.10	VII	*
6		axe, pt	Greenmeadow, Llanfedw	ST 212853	NMW 24.302	XXI ?	*
8		axe	Tal-y-garn, Llantrisant	ST 027802	NMW 26.385	XXIII b	*
9		axe, pt	Quarry, St. Andrews Major	ST 142714	NMW 28.81	XXIII b	*
10		axe	Pant Wilkin stream, Llanblethian	ST 021747	NMW 28.458.88	felsite	*
11		axe	Cowbridge station	SS 999745	NMW 28.458.89		*
12a		axe, fr	Merthyr Mawr Warren	SS 8677	NMW 28.458.67	hornfels	*
12c		axe, fr	Merthyr Mawr Warren	SS 8677	NMW 28.458.69	XXI	*
12d		axe, fr	Merthyr Mawr Warren	SS 8677	NMW 28.458.70	XXI ?	*
13a		axe, fr	Merthyr Mawr Warren	SS 8677	NMW 32.425.1n	chert ? (ns)	*
13b		axe, fr	Merthyr Mawr Warren	SS 8677	NMW 32.425.1n	chert ? (ns)	*
13c		axe, fr	Merthyr Mawr Warren	SS 8677	NMW 32.425.1n	chert ? (ns)	*
14		axe, fr	Peiro's Abbey, Barry	ST 114665	NMW 36.202.33	VIII	*
15		axe, fr	Twmpath Mawr, Merthyr Mawr	SS 867773	NMW 41.305.1	VIII	*
16		axe	Gelli, Llanwonno	ST 070934	NMW 42.389	VII	*
17		axe	Thomas Town, Merthyr Tydfil	SO 055060	NMW 47.421	siliceous ash	*
18		axe	Quarry, St. Andrews Major	ST 142714	NMW 49.431	XXIII b	*
19		axe	Tyfri Rd., Port Talbot	SS 7888	NMW 51.279	andesitic ash	*
20		axe, fr	Peiro's Abbey, Barry	ST 114665	NMW 36.202.69	flint (sectioned)	*
21		axe, pt	Trehill, St. Nicholas	ST 082738	NMW 37.63	flint (sectioned)	*
23		axe	Canton, Cardiff	ST 164768	NMW 75.34H	porphyritic basalt	*
24		pebble	Hardings Down West fort, Llangennith	SS 434907	RCAHM Wales	ferric concretion	*
25		axe	Blaen Nant-y-groes, Aberdare	SO 029028	NMW 73.20H.2	VIII	*
26		axe	Cwm Selsig, Rhondda	SS 918972	PP	recrystallised sandstone	*
27		axe, pt	Ty Draw, Pyle	SS 814802	NMW 80.8H	XXIII a	*
28		axe	Whitton, St. Lythans	ST 081713	NMW 61.520	VIII	*
29		adze	Mynydd Merthyr, Llanwonno	so 047015	NMW 73.20H.1	flint (ns)	*
30		axe	Dowlais Steel Works, Cardiff	ST 2076	NMW 96.159	flint (ns)	*
31		axe	Foel Fawr, Llangynwyd Higher	SS 855950	NMW 32.470	flint (ns)	*
32		axe	Pentreban, St. Fagans	ST 120787	NMW 30.392	flint (ns)	*
33		axe, pt	Cefn Colstyn, Pentyrch	ST 110815	NMW 28.118	flint (ns)	*
34		axe	Whitchurch, Cardiff	ST 166808	NMW 35.227	flint (ns)	*
35		axe, r-o	Ely, Cardiff	ST 135769	NMW 64.202	flint (ns)	*
36		chisel	Ely, Cardiff	ST 137752	NMW 61.218	flint (ns)	*
37		axe, pt	Coed y Cymdda, Wenvoe	ST 133740	Glam-Gwent Archaeol Trust	I	*
38		axe, fr	Coed y Cywdda, Wenvoe	ST 133740	Glam-Gwent Archaeol Trust	flint (ns)	*
39		axe, fr	Cae Summerhouse, Merthyr Mawr	SS 863779	PP	I	*
40		axe, pt	Mynydd Beili-glas, Rhondda	SN 915027	Rhondda	VIII	*
42		axe	Newton, Oystermouth	SS 5987	Swansea A.901.1	feldspathic ash	*
43		axe, pt	Oystermouth	SS 6287	Swansea 938.59	welded tuff	*
49		b-a, III b	Llandaemoc	SS 440934	Swansea A.845.1	quartz plagioclase tuff	*
50		a-h	The Bulwark, Llanmadoc	SS 443927	Swansea Ax.2.1	greywacke	*
51a		axe, fr	Merthyr Mawr Warren	SS 8677	NMW 50.466.1	XXI ?	*
51b		axe, fr	Merthyr Mawr Warren	SS 8677	NMW 50.466.1a	XXI ?	*
52		axe	Cefn-yr-allt, Dylais Lower	SS 774998	NHW 52.296	VII	*
53		pebble mace, pt	Coedgae Aberaman, Aberdare	ST 01987	NMW 53.492	chert	*
54		axe	Lavernock Rd., Penarth	ST 183702	PP	XXIII a	*
55		pebble mace, pt perf	Oxwich Wood	SS 504860	Swansea A.936.25	indurated audstone	*
56		axe	Ely, Cardiff	ST 135755	NMW 55.204	spotted hornfels	*
57		axe	Heronston, Ewenny	SS 911783	NMW 56.108	rhyolitic ash	*

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No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
58		axe	Cyncoed, Cardiff	ST 191811	NMW 56.328	uralitised gabbro	*
59		axe	St, Cyres School, Penarth	ST 170714	NMW 56.440.2	XXIII b	*
60		axe	Maes-y-coed, Pontypridd	ST 056895	NMW 58.495	VIII	*
61		axe, fr	Coed y Cymdda, Wenvoe	ST 133740	Glam-Gwent Archaeol Trust	altered igneous rock	*
81		misc, gouge	Pengam, Gelligaer	ST 152974	NMW 59.335	VII	*
82		axe	Hopkinstown, Pontypridd	ST 0690?	NMW 60.331	XI	*
83		axe, fr	Windrill, Merthyr Mawr	SS 865772	NWW 58.78	halfefflinta	*
84		axe	Cyncoed, Cardiff	ST 193799	NMW 59.358	chert (ns)	*
85		axe	Lakeside, Cardiff	ST 189803	NMW 66.215	I	*
86		axe	Barland Quarry, Bishopston	SS 576896	PP	I	*
87		mace, Thames pestle	Sker House, Sker	SS 798797	NNW 68.1542	I	*
89		axe	Fforest-fach, Ystradowen	ST 020795	PP	felsite	*
90		axe	Brocastle, Colwinston	ss 938771	NMW 71.2H	VII	*
91		axe	Afan Lido, Port Talbot	SS 745894	NMW 71.8H	I	*
92		axe	Cross Inn, Llantrisant	ST 0583?	PP	VIII	*
93		adze	Sutton, St Bridges Major	SS 863756	NMW 75.37H.37	VII	*
94		axe	Cae'rwigau Uchaf, Pendoylan	ST 065751	PP	VIII	*

Merionethshire

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Merioneth (?)	-	NMW 21.24.3	altered diorite	*
2		axe	Celmi, Llanegryn	SH 597047	NMW 21.24.5	XXI	*
3		axe	Celmi, Llanegryn	SH 597047	NMW 25.140	XXIII b	*
4		axe	Bwlch-gwyn, Llangelynllyn	SH 623133	NHW 25.203.1	augite diorite	*
6		b-a, I b	Brynmarian, Dolgellau	SH 726182	NMW 28.362	XII	*
7		a-h	between Corwen & Bala	-	NMW 32.298	greywacke	*
8		a-h	Bwlch-gwyn, Llangelynllyn	SH 623133	NMW 30.147	XIII	*
9		b-a, II b	Merioneth (?)	-	NMW 21.24.4	XII	*
10		a-h	Cae-gwyn, Llanfachreth	SH 773208	NMW 43.220	ophitic dolerite	*
11		a-h	Llechwedd-hen, Llanyllyn	SH 908385	NMW 47.329	ophitic dolerite	*
12		axe	Tremyrwyddfa, Talsarnau	SH 6135?	NMW 54.398	VIII	*
13		axe	Llyn Stwlan, Ffestiniog	SH 6644	NMW 58.523	VII	*
14		axe	Tynllechwedd, Llanuwchllyn	SH 878327	PP	VII	*
15		axe, pt	Tynllechwedd, Llanuwchllyn	SH 878327	PP	VII	*
16		axe	Tynllechwedd, Llanuwchllyn	SH 878327	PP	VII	*
17		axe, pt	Cefn Maelan, Brithdir and Islaw-rdref	SH 737188	PP	VII	*
18		b-a, double-axe	Dolgellau (?)	SH 7317?	NMW 62.273	greywacke	*
19		axe	Talsarnau	SH 6135	PP	VII	*
20		b-a, IV d, pt	Pegla Fawr, Llangelynllyn	SH 630146	NMW 71.26H	granodiorite	*
21		axe	Llyn Tegid, Llanyllyn (?)	SH 8932?	Chester 128.P.52	greywacke	*
22		pebble mace, pt	Tyn-llyn, Corwen	SH 065452	Chester 33.P.53	agglomerate	*
23		axe	Tomen y Mur, Maentwrog	SH 7038?	NMW 76.1H	VII	*
24		axe	Escuan Hall, Tywyn	SN 595999	NMW 36.310	flint (ns)	*
26		axe	Cae'n-y-coed, Brithdir and Islaw-rdref	SH 6817	Chester	VII	*

Monmouthshire

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Tre Saeson, Llanover Fawr	SO 338118	NMW 20.11	VIII	*
2		axe	The Cwm, Chepstow	ST 53937	NMW 30.435	VII	*
3		axe	Argoed, Bedwellty	SO 175000	NMW 43.210	I	*
4		axe	Allt-y-ryn, Newport	ST 303886	Newport	greenstone	*
5		axe	Allt-y-ryn, Newport	ST 303886	Newport	greenstone	*
8		axe	The Glen, Caerwent	ST 428903	NMW 62.520	XIII	*
9		axe	New Star, Devauden	SO 466020	NMW 64.122	VII	*
10		axe	Pen-y-parc, Crucorney Fawr	SO 339190	Abergavenny AL/5/64	VIII	*
11		axe	Nantfelin, Crucorney Fawr	SO 3120?	Abergavenny A/12/65	acid tuff	*
12		axe, fr	Penbidwal, Crucorney Parr	SO 340223	Abergavenny	VII	*
13		axe	Beaufort Arms, Llanbadoc Fawr	SO 341025	Newport DL117/69.84	I	*
14		axe	Cwrtgollen, Llantrisant Dawr	SO 422025	NMW 42.394	flint (ns)	*
15		axe	The Crescent, Machen Upper	ST 206890	NMW 66.197	flint (ns)	*
16		axe, pt	English Newton Common, Dixon Newton	SO 5216	PP	VI	*
17		axe	Llwyn-gwyn, Llantilio Pertholey	SO 310192	NMW 81.10SH	VIII	*
21		axe, r-o	New Inn, Panteg	so 300001	NMW 77.2H	recrystallised limestone	*

Montgomeryshire

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Carno	SN 9697?	NMW 15.138.2	VIII	*
2		axe	Croes Uchaf, Llanidloes Without	SN 882882	NMW 33.280	epidotised ash	*
3		b-a, II c	Carno	SN 9897?	NMW 15.138.1	XXIII b	*
4		b-a, IV b	Foel Cairn, Garthbeibio	SH 988112	NMW 25.71A.1	XII	*
5		axe, pt	Bwlchlluan, Llanwrin	SH 787062	NMW 59.526.2	acid ash	*
6		axe, r-o	Caeadda, Llanwrin	SH 795057	NMW 59.526.1	carboniferous chert ?	*
7		axe	Crow Wood, Churchstoke	SO 245925	NMW 59.163	XXI	*
8		mace, ovoid B	Montgomeryshire	-	NMW 61.97	feldspathic grit	*
9		axe, pt	Newtown, Llanllwchaiarn	SO 107921	PP	VII	*
10		pebble mace	Cwm Cownwy, Llanwddyn	SH 997179	PP	greywacke	*

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
11		axe	Esgair, Llandinam	SN 997842	NMW 65.112	crystal tuff	*
12		axe, fr	Fron-goch, Llanwddyn	SJ 003211	NMW	crystal tuff	*
13		axe	Pen-y-rhiw, Llanidloes	SN 948845	pp	flint (ns)	*
14		axe	Castle, L lanwnog	SN 991926	NMW 31.352	flint (ns)	*
15		axe	Rhyd-y-part, Llanwnog	SO 010919	pp	siliceous tuff	
16		hammer, pt perf	Beacon Ring, Trelystan	SJ 264058	Clwyd-Powys Archaeol Trust	greywacke	*
21		axe	Gallt-y-gog, Machynlleth	SH 752013	Aberystwyth	hornfels	*
22		axe	Tynyrwtra, Carno	SN 975955	Welshpool	XXIII a/b	*
23		axe	Tynyrwtra, Carno	SN 975955	Welshpool	XXIII a/b	*
25		axe	Breiddin Hill, Bausley	SJ 2914?	Welshpool	ash	*
26		axe, fr	Gungrog, Welshpool	SJ 2309	Welshpool	micaceous siltstone	*
27		a-h	Pen-y-banc, Llanidloes Without	SN 988844	Welshpool	XII	*
28		axe, pt	Vicarage, Meifod	SJ 1513?	Welshpool	welded tuff	*
29		axe, fr	Ffridd Faldwyn, Montgomery	SO 216968	NMW 43.12.5	altered mudstone	*
30		axe, pt	Park House, Newtown	SO 100908	Welshpool	flint (ns)	*
31		chisel	Park House, Newtown	SO 100908	Welshpool	flint (ns)	*
32		axe	Maen Llwyd, Machynlleth	SH 751008	Carmarthen	hornfels	*
33		hammer	Tynycaeu, Pennant	SJ 083244	pp	greywacke	*
34		hammer	Tynycelyn motte, Pennant	SJ 0104262	pp	micaceous metaquartzite	*
35		axe, fr	Llechwedd-y-garth, Llangynog	SJ 032262	pp	flint (ns)	*
36		b-a, III b	Heldre, Middleton	SJ 294107	Shrewsbury	XII	*
37		pebble mace	Llwydiarth Park, Llangadfan	SJ 0215	pp	grit	*
39		axe, fr	Breiddin hillfort, Bausley	SJ 290140	Clwyd-Powys Archaeol Trust	VII	*
40		axe, fr	Breiddin hillfort, Bausley	SJ 290140	Clwyd-Powys Archaeol Trust	VI	*
41		a-h	Faerdre Fawr, Trefeglwys	SN 916895	pp	XII	*

Pembrokeshire

No.	Ser	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Hendre, Meline	SN 120365	NMW 31.205	XI	*
2		axe, fr	Castlemartin Burrows	SR 8998?	NMW 39.185 37	VIII	*
3		axe, fr	Castlemartin Burrows	SR 8998?	NMW 39.229.31	VIII	*
4		axe, pt	Clegyr Voia hillfort, St David's	SM 737251	NMW 43.287	XXIII b	*
5		axe, r-o	Llwynbedw, Capel Colman	SN 212385	50.389	altered ash	*
6		axe	Castle Tank, Bosherton	SR 965933	NMW 51.289	XXIII a	*
7		axe	Causeway, Camrose	SM 910221	Haverfordwest PM A.75.4	I	*
8		axe	Castlemartin Burrows	SR 8998?	NMW 39.229.30	hardened chalk	*
9		a-h	Rhyd-y-brown, New Moat	SN 066221	NMW 48.256	ophitic dolerite	*
10		b-a, I c	Crugiau-dwy, Llanfyrnach	SN 172307	NMW 27.200	ophitic olivine gabbro	*
11		b-a, V a	The Beacon, Llanrian	SM 831314	NMW 33.226	XXIIIb	*
12		axe, fr	Freshwater, Angle	SM 883006	PP	VIII	*
13		mace, Thames pestle	Cilgwyn Mawr, Nevern	SN 088357	NMW 62.390	XIII	*
14		a-h	Wern Villa, Eglwysrwrw	SN 148393	PP	altered basalt	*
15		axe	Llanwnda (?)	SM 9139?	PM A.75.8	dolerite	*
16		axe	Llanwnda(?)	SM 9139?	PM A.75.7	altered gabbro ?	*
17		axe	Llethr, Brawdy	SM 854235	PM A.75.1	VIII	*
18		axe, pt	Merry Vale, St David's	SM 749253	PM A.75.3	siliceous tuff	*
19		axe, pt	Mathry	SM 8831?	PM A.75.5	crystal tuff	*
20		mace, ovoid B, pt	Velindre, Nevern	SN 104389	PM A.75.6.120	quartzite	*
21		axe	Swanlake Bay, Manorbier	SS 043982	Pitt-Rivers, Oxford	VIII	*
22		a-h	Grondre	SN 1118?	Tenby A 5	metagabbro	*
23		axe	Caerau Gaer, Llanddewi Velfrey	SN 139162	Tenby A 7	keratophyre	*
24		axe	Hill Bay Bottom, Dale	SM 807041	Tenby A 11	quartz dolerite	*
25		axe	Brunt, Dale	SM 809038	Tenby A 15	VIII	*
26		axe, pt	Benton, Burton	SN 004068	Tenby	VIII	*
27		axe, pt	Saundersfoot, St Issels	SN 123057	Tenby	VIII	*
28		flake	Carn Llidi cromlech, St David's	SM 735278	RCAHM Wales	ophitic dolerite	*
29		axe, r-o	Cwmyreglws, Dinas	SN 014400	PP	porphyritic rhyolite	*
30		axe, r-o	Druidstone Haven, Nolton	SM 862173	Carmarthen 1477	granophyre	*
31		axe, fr	Frainslake, Castlemartin	SR 893978	PP	VIII	*
32		axe	Priory Bay, Caldy Island	SS 138968	PP	hornfels	*
33		hammer	Mynachlog-ddu	SN 1430?	NMW 38.591	ophitic dolerite	*
34		axe	Felin Wrdan, Eglwysrwrw	SN 137368	PP	VIII	*
35		flake	Tychwarel, Caldy Island	SS 142970	PP	devitrified rhyolite	*
36		axe, r-o	Monastery Field, Caldy Island	SS 142964	PP	VIII	*
37		chisel	Brownslade Burrows, Castlemartin	SR 8998(	Carmarthen	flint (ns)	*
38		axe	Unprovenanced	-	Tenby	greywacke	*
39		axe	Unprovenanced	-	Tenby	greywacke	*
40		a-h	Llanfyrnach	SN 1930(	PP	XIII	*
41		axe	The Have, Camrose	SM 919219	PP	VIII	*
42		axe	Old windmill, Angle	SM 868018	Pembroke	VIII	*
43		axe, pt	Frainslake, Castlemartin	SR 893978	Carmarthen	gabbro	*
44		axe	Clegyr Voia hillfort, St David's	SM 737250	Tenby	gritty tuff	*
45		axe	Maryborough Moorland, Dale	SM 810046	Tenby A 12	VIII	*
46		axe	Nab Head, St Brides	SM 790110	Tenby	VIII	*
47		flake	Palmerston, Furzy Park and Port-field	SM 937143	PP	VIII	*
48		axe, r-o	Pope Hill, Johnston	SM 9312?	PP	VIII ? (tuff)	*
49		flake	Daylight Rock, Caldy Island	SS 149966	Tenby	mineralised siltstone	*
50		flake	Daylight Rock, Caldy Island	SS 149966	Tenby	mineralised ailtstone	*
51		flake	Daylight Rock, Caldy Island	SS 149966	Tenby	mineralised siltstone	*
52		flake	Nab Head, St Brides	SM 790110	Tenby	mineralised siltstone	*
53		flake	Nab Head, St Brides	SM 790110	Tenby	mineralised siltstone	*
54		misc artefact, fr	Nab Head, St Brides	SM 790110	Tenby	mineralised siltstone	*
55		flake	Nab Head, St Brides	SM 790110	Tenby	siliceous tuff	*

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
56		flake	Nab Head, St Brides	SM 790110	Tenby	mineralised siltstone	*
57		flake	Nab Head, St Brides	SM 790110	Tenby	mineralised siltstone	*
58		flake	Nab Head, St Brides	SM 790110	Tenby	mineralised siltstone	*
59		flake	Nab Head, St Brides	SM 790110	Tenby	mineralised siltstone	*
60		flake	Nab Head, St Brides	SM 790110	Tenby	mineralised siltstone	*
61		flake	Nab Head, St Brides	SM 790110	Tenby	mineralised siltstone	*
62		flake	Nab Head, St Brides	SM 790110	Tenby	siliceous tuff	*
63		flake	Nab Head, St Brides	SM 790110	Tenby	mineralised siltstone	*
64		flake	Nab Head, St Brides	SM 790110	Tenby	mineralised siltstone	*
65		flake	Nab Head, St Brides	SM 790110	Tenby	siliceous tuff	*
66		flake	Nab Head, St Brides	SM 790110	Tenby	mineralised siltstone	*
67		misc artefact, fr	Nab Head, St Brides	SM 790110	Tenby	siliceous tuff	*
68		axe, fr	Whitesand Bay, St David's	SM 732270	NMW 76.17H	VIII	*
69		axe	Henllan, Llanddewi Velfrey	SM 134163	Tenby A 9	fragmental tuff	*
70		axe	Pfynnon Druidion cromlech, St Nicholas	SM 920367	Tenby A 8	gabbro	*
71		axe, pt	Cleddau shore, Burton	SN 001054	PP	VIII	*
72		axe	Pentre Langwm, St Dogmaels Rural	SN 162466	PM	flint (ns)	
73		axe	Bathfield, Johnston	SM 942099	PM A.76.5	flint (ns)	*
74		axe	Corstone Beacon, Hundleton	SR 932999	PM	XXIII a	*
75		axe, r-o, pt	Rhos Fach (unlocated)	-	PM	VIII	*
76		flake tool	Rhoduchaf, Ramsey Island. St David's	SM 705244	PP	siliceous tuff	*
78		axe	Mill Bay Bottom, Dale	SM 806039	Tenby A 14	VIII	*
79		axe	Tremaenhir Common, Whitchurch	SM 8226?	Tenby A 1	VIII	*
80		axe	unprovenanced	-	PM A.75.2	VIII	
81		axe	unprovenanced	-	Haverfordwest	altered dolerite	
82		axe	Cilgwyn, Nevern	SN 077360	Tenby	VIII	
83		axe	Tremaenhir Common, Whitchurch	SM 820263	Tenby A 4	siliceous tuff	*
84		axe	Tremaenhir Common, Whitchurch	SM 820263	Tenby A 3	altered igneous rock	*
85		misc, pick	Nab Head, St Brides	SM 790110	Dyfed Archaeol Trust	rhyolitic tuff	*
86		disc, perf	Nab Head, St Brides	SM 791109	PP	altered igneous rock	*
87		axe	Nab Head, St Brides	SM 791109	PP	intrusive igneous rock	*
88		axe	Nab Head, St Brides	SM 791109	PP	intrusive igneous rock	*
89		a-h	Tredafydd, Manorowen	SM 935330	Tenby	doleritic rock	*
90		axe	Newhouse. Hayscastle	SM 906264	Tenby A 10	flint (ns)	*

Radnorshire

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Rhayader	SN 9768	Brecon	I	*
2		axe	The Crug, Llangunllo	SO 190723	Llandrindod	VII	*
4		b-a, II c	Clap yr Arian, Llansantffraed Cwmdeuddwrr	SN 936699	Brecon	XIII	*
5a		axe	Pen-y-wern, Heyope	SO 2573?	PP	rhyolitic ash	*
5b		mise, block	Pen-y-wern, Heyope	SO 2573?	PP	rhyolitic ash	*
6		a-h	unprovenanced	-	Llandrindod	XII	*
7		b-a, I b, pt perf	unprovenanced	-	Llandrindod	hornfels	*
8		axe	Lloiney, Clyro	SO 200446	Llandrindod	hornfels	*
9		axe	Clyro	-	Llandrindod	hornfels	*
10		axe	Dolberthog, Llandrindod Rural	SO 052602	Llandrindod	VIII	*
11		a-h	Bryndraenog, Beguildy	SO 204785	Knighton C S Sch	XII	*
12		axe, fr	Home Farm, Norton	SO 299662	Knighton C S Sch	VIII	*
13		axe	Dolaujenkin, Llanbadarnfawr	SO 109652	PP	VIII	*
14		axe, fr	Fronddyrys, Llanfihangel Nant Melan	SO 160598	PP	crystal tuff	*
15		axe, fr	Fronddyrys, Llanfihangel Nant Melan	SO 160598	PP	rhyolitic glass	*
18		axe	Crabtree Green, Cefnlllys Urban	SO 058723	Llandrindod DB 116c	VII	*
17		axe	Roman Port, Clyro	SO 228434	NMW 66.512	VI	*
18		axe	Pantpurlais, Llandrindod Rural	SO 073607	Llandrindod	VII	*
19		scraper	Llanstephan	SO 118411	Llandrindod	siliceous tuff	*
20		axe, fr	Hym's Farm, New Radnor	SO 246612	PP	siliceous tuff	*
21		flake	Knobley, Evenjobb etc.	SO 287613	Knighton C S Sch	welded tuff	*
22		pebble mace	Nantmel	-	Welshpool	quartzite	*
23		hammer	Nantmel	-	Welshpool	dolerite	*
24		a-h	Little Baynham, Stanage	SO 324709	Hereford	XII	*
25		axe, r-o	Rough close, Evenjobb etc.	SO 253816	PP	micaceous tuff	*
26		axe, fr	Knowle Hill, New Radnor	SO 214617	PP	VIII	*
27		axe, pt	Rough Close, New Radnor	SO 25163	PP	VII	*
28		axe, fr	Hym's Farm, New Radnor	SO 244615	PP	siltstone	*
29		axe, fr	Rough Close, New Radnor	SO 252613	PP	VI	*
30		axe, fr	Abbeycwmhir	SO 0671?	PP	-	*
31		pebble	Castle Ring, Evenjobb etc.	SO 266636	PP	andesitic ash	*
32		axe, fr	Hym's Farm, New Radnor	SO 244615	PP	chert (ironstained)	*
33		axe, fr	Fronddyrys, Llanfihangel Nant Melan	SO 160598	PP	VIII	*
34		b-a, III b	Harpton Court, Harpton and Wolf-pits	SO 242599	Llandrindod	XII	*
35		axe	Llanbedr Painscaatle	SO 175458	PP	VIII	*
36		axe	Llanbedr Painscaatle	SO 162466	PP	flint (ns)	
37		axe	Trelowgoed Mill, Llanbadarn Fawr	SO 089838	Llandrindod	flint (ns)	
38			Talcoed, Evejobb	SO 263622	PP	VI	

Wales (unlocated)

No.	Ser	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		b-a	Teifiside, CA or CAR	SN	NMW 47.164.143	micaceous siltstone	*
2		a-h	Teifiside, CA or CAR	SN	NMW 47.164.139	XXIIIb	*
3		a-h	West Wales, CA, CAR, OF P	SM or SN	NMW 47.164.140	uralitised gabbro	*
4		axe	Dovey Valley, CA, ME or MO	SM or SN	Welshpool	Sheared metamorphic	*
6		b-a, V, ES	MO or Salop	-	Welshpool	XII	*
8		axe	Mid-Wales, MO or Salop	S0	NMW 29.276	acid ash	*
10		axe	North Wales, AN or CAE	SH	Bangor 2778	VII	*

Notes**Anglesey**

No	Note	No	Note
N o	Note		
		53	Petrographically similar, Neither has polish Same cliff-top origin as AN 29 & 30
1	Not recorded as found together RCAHM Add, no 7 (fig), PW, nos 54-5 (fig)	54	See above
2	See above	56	ibid, no 11
3	From excavation of chambered tomb AN 3 & 4 petrographically identical, 5 & 6 different from 3 & 4 and from each other Other Graig Lwyd flakes and polished axe frags present RCAHM Add, no 27 (figs), PW, no 185 (figs)	57	Described by excavator as mesolithic tranchet axe AC 127 (1978), 25 (fig)
4	See above	58	Archeol Wales 10 (1970), no 1
5	See above		
6	See above		
7	See above		
8	With two other axes in an unidentified barrow RCAHM Add, no 26b, PW, no 116 (fig)		
9	RCAHM Add, no 26d	1	Similar in hand specimen. Only BR 3 was sectioned From a hoard of four axes which also included BR 23 PW, no 136 (figs)
10	Ibid, no 83, PW, no 351 (fig)	2	See above
11	Found with another (now lost) RCAHM Add, no 32 (fig), PW, no 352 (fig)	3	See above
12	RCAHM Add, no 22a, BBCS 17 (1956 -8), 53	4	Fourth Report no 225, PW, no 118
13	Roe 1966, no 462	5	PW, no 87 (fig)
15	AC 83 (1928), 226	6	PW, no 93 (fig)
21	RCAHM Add, no 13	7	AC 98 (1944), 142 (fig)
22	ibid, no 16	10	Brycheiniog 15 (1971), 7 (fig)
23	ibid, no 19a	11	ibid, 16
24	ibid, no 17	12	See above
25	ibid, no 84a	13	ibid, 9
26	ibid, no 10b	14	BBCS 19 (1960-2) 252-4 (fig)
27	Found with AN 52 ibid, no 1	15	Brycheiniog 15 (1971), 7 (fig)
28	Provenance sic contra RCAHM Ibid, no 41 (fig)	16	Found close to BR 22, but not with It. ibid, 9 (Pig)
29	Derived from cliff top deposit Roth destroyed in making slides see also AN 53 4	17	ibid, 7 (fig)
30	See above	18	ibid, 8
32	RCAHM Add, no 4b	19	Surface beneath chambered tomb W J Britnell & H N Savory, Cwernvale & Penwynlod, Cambridge Arch ASS, 1984: Cambridge Arch Monograph, no 2, 125-6 (fig 54), 154
33	ibid, no 4a	21	Fourth Report no 100 Maul, with hafting groove
34	ibid, no 8 (fig)	22	No polish, Cast: NMW 35.482. See also BR 16 PW, no 134 (fig)
35	ibid, no 9	23	See BR 1-3 above
36	Ibid, no 4c	24	Cast: NMW 35.215.2 PW, no 99 (fig)
37	See above	25	Scandinavian type, PW. no 120 (fig)
38	Not ibid, no 10		
39	Ibid, no 25		
42	Ibid, no 5		
44	ibid, no 80		
45	ibid, no 81		
46	ibid, no 82		
47	ibid, no 90		
48	Fourth Report no 222 RCAHM Add, no 20		
51	With hafting groove AC 83 (1938), 134 (fig)		
52	Found with AN 27 Similarity makes section unnecessary, RCAHM Add, no 1		

Caernarvonshire

No.	Note
1	PW. no 64 (fig)
2	Possibly ethnological
3	PW no 56 (fig)
4	PW, no 109
5	PW. no 110
6	PW. no 111

No.	Note	No	Note
7	BBCS 13 (1948-60). 162: Proc Prehist Soc 27 (1961). 142 (fig)	65	Two found together Not sectioned. pioximity to Graig Lwyd supports macroscopic identification
9	PW. no 350 (fig)	66	See above
10	Possibly ethnological. NGR corrected. contra PW. no 135	67	Fourth Report 573 Confirmation of Gp VII at Garreg FaWr. ibid I. liii. no 27
11	NGR corrected. contra PW. AC 83 (1928) 224: PW. no 356	68	ibid I. liii. no 22 (fig)
12	PW. no 308	69	Probably an unhefted hand tool Brit Mus Quarterly 35 (1960). 232 (fig)
13	Roe 1966. no 464, BBCS 19 (1960-2). 169 (fig)	70	Slightly expanded edge From EBA circle excavation RCAHM Caernarvonshire III. 112. no 280
14	Possibly ethnological. PW. no 301	71	Large blade form, not from an axe One edge trimmed
15	BBCS 16 (1954-6). 50. Proc Prehist Soc 27 (1961). 142 (fig)	72	Large blade form. not from an axe One of five. ibid III. xxx". no 8 (fig)
17	BBCS 20 (1962-4). 305-6 (fig)	73	Secondary graffiti on both fares ibid I. lix. no 11
18	ibid 22 (1966-8). 200	74	ibid III. xxxv. no 5 (fig)
21	RCAHM Caernarvonshire I. liii. no 28 (fig)	75	ibid II. xli. no 10
22	ibid I. liii. no 21	76	Same site as CAE. 46. q v
23	ibid I. lii. no 14 (fig)	77	Fourth Report 1058
24	ibid I. lix. no 2 (fig)	79	Fourth Report 719 RCAHM Caernarvonshire III. xxxvi no 11
25	Petrological group sic. contra RCAHW ibid I. liii. no 29 (fig)	80	Fourth Report 187 Sectioned as type material PW. no 46
26	ibid I. Jix. no 3 (fig)	82	Alternative findspot SH 380 393 RCAHM Caernarvonshire III. xxxii. no 26a. Trans Caernarvonshire Hist Soc 35 (1974). 171 (fig)
27	ibid II. xii. no 2 (fig)	83	From excavtdn in Roman fort Macroscopic examination adequate for 88-9 Archaeol J 125 (1968) 165-8
28	AC 90 (1935). 275 (fig); PW. no 349	84-9	See above
29	RCAHW Caernarvonshire I. lxii. no 21 (fig)	91	Individual associations as follows 91 scraper trimming, pre-henge habitation level 92. R-R post-hole filling 93 Henge A. post neolithic ditch silting 94 stone embedded in cremation circle. contemporary with Henge A 95 unstratified moddern, ceramic (insulator?) 96 Henge A. pit in interior 97 Neolithic surface within Henge A 98 upper fill of Henge 8 ditch 99 cremation pit within Henge A 100 found With CAE 99 101. post-hole of pre Henge 8 house 102-3 as 98 104-7 rubbish pit near pre Henge 8 house 108 Site E. unstratified Antiquity 42 (1968). 216-221
30	ibid I. lxii. no 23 (fig)	92-108	See above
31	ibid I. lxii. no 25 (fig)	109	with hourglass perforation Trans Caernarvonshire Hist SOC 35 (1974).171 (fig)
32	ibid II. xli. no 3 (fig)	113	Brit MUS QUarterly 35 (1960). 232
33	ibid I. lix. no 4 (fig)		
34	AC 83 (1928). 223 (fig)		
35	RCAHM Caernarvonshire II. lxvii. no 38 (fig)		
36	ibid II. xlv. no 31		
37	ibid II. XLV. no 30 (fig)		
38	A pair of perfect spheres found together. AC 106 (1957). 53		
39	See above		
40	RCAHM Caernarvonshire III. XXX". no 6 (fig)		
41	ibid II. xii. no 11		
42	Ibid III. 131. no 19.		
44	RCAHM Caernarvonshire II. Xii. no 5 (fig)		
45	Possibly from recent stone dressing		
46	As last See also CAE 76		
47	Original testing of axe factory material		
48	ibid III. 131. no 12b		
49	ibid II. xliiii. no 13 (fig)		
50	ibid I. lix. no 12 (fig)		
51	ibid III. 133. no 8a		
52	Ibid III. 133. no 25b		
54	AC 83 (1928). 223 (fig)		
56	RCAHM Caernarvonshire I. liii. no 23		
57	ibid I. lix. no 5 (fig)		
58	ibid I. lix. no 8 (fig)		
59	ibid I lix. no 9 (fig)		
60	ibid I. lix. no 10 (fig)		
61	ibid I. lxii. no 22 (fig)		
62	ibid III. xxxvi. no 18		
63	Fourth Report 186 Sectioned as type material PW. no 46		
64	RCAHM Caernarvonshire I. liii. no 19 (fig)		

Cardiganshire

No	Note
1	PW. no 80 (fig)
2	Reworked into small axe PW no 126. Proc Prehiat Soc 27 (1961), 142 (fig)
4	PW. no 128
5	Probably not an artifact. PW. no I29
6	PW. no 130
7	Expanded cutting edge. NGR corrected. contra PW. no 78 (fig)
8	PW. no 347 (fig)
9	PW. no 346 (fig)
10	PW. no 357

No	Note
11	NOR corrected. contra PW. no 364: AC (1925), 202 (fig),
12	NCR corrected. contra PW. no 335
13	Not preselite. contra BBCS 15 (1952-4). 68
14	ibid 15 (1952-4). 225
15	ibid 22 (1968-8). 202-3 (fig),
16	ibid 24 (1970-2). 97 fig),
17	ibid 24 (1970-2). 97
19	ibid 26 (1974-6). 241 (fig)
20	PW. no 95 (fig)
24	Probably not an artefact
27	Not acceptable as battle-axes. Contra Roe 1966. nos 466-7
28	See above
29	Probably a local grit
31	Suspected modern import
33	Trans Carmarthenshire Antiq Soc 19 (1926). xv
38	PW. no 105 (fig)
40	Possibly weathered to axe form

Carmarthenshire

No	Note
1	PW. no 341. Roe 1966. no 469
2	PW. no 359
3	Trans Carmarthenshire Antiq Soc 16 (1922-3). 31
4	Proc Prehist Soc 27 (1961). 142 (fig)
6	BBCS 22 (1966-). 201
9	ibid 24 (1970-2). 98 (fig)
10	Provenance 'within 1/2-mile'. PW. no 88 (fig)
13	Lloyd 1935. 40n
19	RCAHM Carmarthenshire. no 373
21	Fro. recumbent stone in circle. seems to be modern cement
22	Fourth Report 178 (pre-1941).not now known at NMW
23	Site of cairn AC 90 (1835). 270. Roe 1966. no 470
24	BBCS 8 (1935-7). 98
25	Lloyd 1935. 40n (fig)
28	BBCS 14 (1950 2). 85
29	Lloyd 1935. 40n (fig)
30	Trans Carmarthenshire Antiq Soc 21 (1929). 2
31	AC 6th aer. 15 (1915). 336 (fig),
32	Near a barrow. RCAHM Carmarthenshire no 273
33	Trans Carmarthenshire Antiq Soc 17 (1923-4). 45
34	ibid 27 (1937). 48 (fig)
35	AC 5th aer. 11 (1894). 79
36	Trans Carmarthenshire Antiq Soc 11 (1917). 82
37	ibid 18 (1926-6). XIV
38	BBCS 6 (1931-3). 380
39	From excavations. CAR 39 destroyed in making slide. CAR 43 is possibly a natural pebble Wsinwright 1967. 161-2, 188-9. fig (CAR 40-1),
40	See above
41	See above
42	See above
43	See above
45	RCAHM Carmarthenshire. no 226

Denbighshire

No	Note
1	PW. no 75 (fig)
2	PW. no 57 (fig)
3	PW. no 167 (fig)
4	PW. no 167
6	PW. no 112. Davies 1929. 216 (fig)
7	PW. no 124. Davies 1949. App 441
8	BBCS 15. 67
9	PW. no 108. Davies 1929. 216 (fig,
10	PW. no 321. Davies 1949. App 450 (fig,
11	Roe 1966. no 472
12	BBCS 22. 201 (fig,
13	TDHS 18. 9 (fig,
14	TDHS 18. 9 (fig,
15	TDHS 18. 13 (fig)
16	TDHS 18. 11 (fig),
19	PW. no 362 (fig); Davies 1929, 284 (fig,
21	Pound with DEN 36 Davies 1929. 337 (fig)
22	Ibid. 181 (fig,
24	Pw. no 310. Davies 1929. 306 (fig)
25	Fourth Report 272 ibid. 316 (fig)
29	Expanded cutting edge
30	ibid. 413 (fig)
31	ibid. 196 (fig)
32	Ibid. 339 (fig)
33	ibid. 338 (fig)
34	ibid. 249 (fig)
35	ibid. 340 (fig)
36	Found with DEN 21 ibid. 337 (fig)

Flintshire

No	Note
1	From exravation of 'lower prehistoric level'; PW. no 160
2	In excavation of hut circle PW. no 166
3	From excavation of main neolithic settlement. known as 'Kine Charles's Bowling Green' PW. no 156
4	From excavation of hut circle PW. no 165
5	From excavation of rock shelter PW. no 165
6	PW. no 106
7	PW. no 58. Davies 1949. 324 (fig),
8	PW. no 59. Davies 1949. 325
9	PW. no 60. Davies 1949. 283 (fig)
10	PW. no 61. AC 78 (1923). 151 (fig)
11	Pw. no 363 (fig); Roe 1968. 149
12	AC 102 (1952-3). 169 (fig)
13	Beach stone. fortuitously axe-shaped. perforated
22	Davies 1949. 241 (fig)
23	These. with F 1a-c. are 6 of 8 fraements found F 24-5 destroyed in making slides AC 6th ser. 15 (1915), 54
24	See above
25	See above
26	Crude perforated object. not acceptable as battle-axe Davies 1949. 221 (fig): Roe 1966, no 473
27	PW. no 11

258 *Lists of identifications*

No	Note
28	Davies 1949, 315 (fig)
29	ibid, 421 (fig)
30	From excavation of hillfort
31-7	See above
38	Possibly naturally shaped

Glamorganshire

N o	Note
2	PW, no 67, Other finds from Merthyr Mawr warren include several too small to section
2	PW, no 70
2	PW, no 71
3	PW, no 63
4	PW, no 69
5	PW, no 52
6	PW, no 76
8	PW, no 81 (fig)
9	same provenance as GL 18 PW, no 82 (fig)
10	PW, no 85 (fig)
11	NGR & parish SiC contra PW, no 86 (fig)
12	PW, no 84
13	PW, no 96
14	PW, no 101
15	PW, no 117
16	PW, no 119 (fig)
17	PW, no 133
18	Same provenance as GL 9 BBCS 13 (1948-50), 245
19	ibid 14 (1950 2), 250
20	PW, no 102
21	On site of supposed tomb PW, no 104
24	Natural, Prow hut in hill-fort excavation, AC 122 (1973), 67
25	BBCS 26 (1974-6), 242 (fig)
27	Archaeol Wales 16 (1976), no 35
29	BBCS 26 (1974-6), 242 (fig)
30	PW, no 62 (fig)
31	PW, no 94 (fig)
32	PW, no 89 (fig)
33	PW, no 83 (fig)
34	PW, no 100 (fig)
35	BBCS 22 (1968-8), 199 (fig)
36 See above	
39	Excavation of EIA Site
42	Rutter 1948, 40
43 See above	
49	Roe 1966, no 475; Wheeler 1945, 137 (fig)
50	BBCS 3 (1926 7), 352, no 39
52	ibid 15 (1952-4), 68
55	AC 91 (1936), 309 (fig)
57	BBCS 17 (1956-8), 53
58	Probably Cornish, though not Gp 1, BBCS 19 (1960-2), 168
59	ibid 17 (1956-8), 194 (fig)
60	ibid 19 (1960-2), 167

N o	Note
81	Adze form with curved cutting edge ibld 19 (1960-2), 166 (fig)
82	ibid 19 (1960-2), 168
84	ibid 19 (1960 2), 167
85	ibid 22 (1966-8), 200
87	ibid 24 (1970-72), 98 (fig)
89	Morgannwg 13 (1969), 108
91	Remains of haft attached Antiq J 51 (1971), 296 (fig)
93	Excavation of settlement

Merionethshire

N o	Note
1	PW, no 73 (fig)
2	ME 2 & 3 not found together PW, no 74 (fig)
3	As last PW, no 77 (fig)
4	PW, no 79 (fig)
6	PW, no 343 (fig), Roe 1966, no 476
7	Pw, 348 (fig)
8	PW, 345 (fig)
9	Pw, 344 (fig), Roe 1966 no 477
10	PW 353 (fig)
12	PW, no 360
12	BBCS 14 (1950-2), 166
13	Reused as a hone ibid 19 (1960 2), 168 (fig)
14	Not found together ibid 19 (1960 2), 166
15 See above	
16 See above	
17	J Merioneth Hist Rec Soc 4 (1962), 176
18	Expanded blades pet forated
20	Distinctly type IVD, though large BBCS 25 (1972-4), 91 (fig)
24	PW, no 103 (fig)

Montgomeryshire

No.	Note
1	PW, no 65 (fig)
2	PW, no 97 (fig)
3	PW, no 342 (fig), Roe 1966, no 478
4	From primary cist/cremation burial PW, no 561 (fig), Roe 1966, no 479
5	BBCS 19 (1960-2), 168 (fig) (NCR's there transposed)
6 See above	
7	ibid 19 (1960 2), 166
9	2 ft deep In yellow Clay ibid 22 (1966-8) 200
11	NCR SIC, contra BBCS 22 (1966-8), 201
12	Archaeol Wales 17 (1977), no 40
13	BBCS 24 (1970 2), 98 (fig)
14	PW, no 92 (fig)
21	RCAHM Montgomeryshire, no 745
22	Identical rock, found together, PW, no 137 (fig)
23 See above	
25	AC 92 (1937) 115 (fig)
26	RCAHM Montgomeryshire, no 207
27	Montgomeryshire collect 14 (1881), 271 (fig)

No	Note	No	Note
28	RCAHM Montgomeryshire, no 793	45	Not flint. contra Wheeler AC 6th ser, 15 (1915), 160. Wheeler 1925. 53 (fig)
29	Fourth Report 218 Neolithic level preceding hillfort PW. no 170	46	Relationship to mesolithic level uncertain
30	Found together. RCAHM Montgomeryshire, no 830 (fig)	47	Flake tool, not from axe
31 See above		49	Unpolished flakes from apparently mesolithic levels or excavations, Rock similar to P 60
32	Wheeler 1925, 59 (fig)	50 See above	
33	Thick natural pebble. centrally bored RCAHM Montgomeryshire. no 856	51 See above	
34	Grooved for hafting	52	P 52-67 inclusive selected by R M. Jacobi as apparently from resolithic levels at Nab Head. P 60 taken as type: little variation seen in P 53. 54, 56, 57, 59, 61, 63, 66, recognisable variation In P 52, 58, 64; P 55, 62, 65, 67 are not equated with the type, nor are they mutually identical see also P 49-51
36	Roe 1966. no 480	53-67 See above	
39	In core of hillfort rampart Archaeol Wales 11 (1971), no 21	69	RCAH., Pembrokeshire. no 430
40	Rubbish survival in EIA level ibid	70	Wheeler 1925, 54 (fig)

Pembrokeshire

N o	Note
1	PW, no 91 (fig)
2	PW, no 113
3	PW, no 115
4	From fort before excavation. PW, no 123
5	BBCS 14 (1950-2). 166
6	On loan to Haverfordwest Museum 1960 Ibid 14 (1950-2). 249
7	Slightly expanded cutting edge
8	Grinding at cutting edge probably recent PW, no 114
9	On loan to Haverfordwest Museum 1980 PW. no 361
10	PW. no 558 (fig), Roe 1966. no 482
11	From cist in barrow PW. no 560 (fig); Roe 1966, no 481
13	BBCS 20 (1962-4), 165 (fig)
15 See above	Kept together at farm Local provenance assumed
17	RCAHM Pembrokeshire. no 74
16	BBCS 13 (1948-50). 162
21	AC 6th Ser. 13 (1913), 407 (fig)
22	Perforation incomplete. from one face only. Wheeler 1925, 138 (fig)
23	AC 4th ser. 6 (1875), 415
24	AC 6th ser. 15 (1915), 160
25	ibid. 181
27	Reflaked from larger axe
26	Chip taken In field from cromlech supporter
29	BBCS 15 (1952-4), 67
30	RCAHM Pembrokeshire, xxvii (fig)
31	BBCS 19 (1960-2), 49
32	AC 104 (1955), 148
33	Fourth Report 188. Maul. grooved for hafting. PW. no 305; AC 95 (1940), 247 (fig)
34	Fourth Report 810
35	Fourth Report 1084 No polish AC 110 (1961), 34 (fig,
36	Fourth Report 694 AC 110 (1961), 34 (fig)
37	square section RCAHM Pembrokeshire. no 150 (fig)
38	Identical rock Squared sections suggest ethnographic origin
39 see above	
42	Cast in NMW. PW, no 107
43	Re-used as a pounder
44	Excavated 1902. In hearth with pottery. AC 102 (1952-3), 23 (fig)

72	Found in a load of soil from an unknown source
74	Not associated with BA cairn
76	Flake tool. not from an axe
78	AC 6th Ser. 15 (1915), 160
79	One of four at so-called 'factory' RCAHM Pembrokeshire, no 1174
85	Meglermosean type. from site I.
86	Pebble material ground to shape. all from site II (late resolithic), P 86 has hourglass perforation and bevelled edge
87 See above	
68 See above	
90	RCAHM Pembrokeshire. no 311

Radnorshire

N0	Note
1	PW. no 98 (fig)
2	PW. no 125
4	NGR sic contra PW. no 559 (fig), Roe 1966, no 483
5	Possibly found together'. similar rock 5b has polished surface Trans Radnorshire Soc 24 (1954), 80
6	ibid 32 (1962), 15
7	Roe 1966 no 485
8	Trans Radnorshire Soc 30 (1960). 57
9 See above	
10	ibid 26 (1956), 4
11	Ibid 27 (1957), 63
13	BRCS 19 (1960-2), 167
14	From surface at neolithic settlement site
15 See above	
17	NCR sic contra BBCS 22 (1966 R). 271 (fig),
19	Smooth surface. not from a broken axe
20	Destroyed in making. slide
21	No polished surface
22	AC 69 (1934). 339 (fig)
23	Maul, grooved for hafting ibid
24	Proc Prehist Soc 17 (1951), 162 (fig)
25	Trans Radnorshire Soc 35 (1965). 21
27	On top of harrow, derived from surrounding lend. ibid, 35 (1965). 9
31	Natural and unimproved, ibid 35 (1965). 21
32	ibid
33	Destroyed in making slide Pro. neolithic settlement
34	ibid 46 (1977), 81 (fig)
35	Fragment of larger axe reground

Wales (unlocated)

N0.	Note		
1	PW, no 356: AC 60 (1925), 205 (fig), Roe 1966, no 486	6	Montgomeryshire Coll 14 (1981), 276 (fig) Roe 1966, no 487
2	PW, no 354; AC 80 (1925), 205 (fig)	8	BBCS 24 (1970 2), 95 (Fig)
3	PW, no 355	10	Probably local find near Bangor

Ireland**Antrim**

N0.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1	17	axe	Carclunty Bog	D 0210	Avebury	dolerite	
2	18	axe	unknown	-	Avebury	greenstone	
3	192	axe, r-o	Tievebulliagh Hill	D 193207	Dublin	IX	
4	193	axe, r-o	Tievebulliagh Hill	D 193207	Dublin	IX	
5	752	axe, fr	Lyles Hill	J 248828	pp	tuff	
6	817	axe, fr	Belfast, Squire's Hill	J 3079	pp	IX	

Donegal

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1	773	axe	Cresshough	C 206430	pp	greenstone	

Dublin

No.	Ser.	implement	Locality	N.G.R.	Accession	Petrology	Note
1	363	axe	Feltrim Hill	O 320244	PP	carboniferous shale	

Limerick

No	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1	647	axe, fr	Lough Gur, Knockadoon D	R 164140	pp	trachyte	

Co Meath

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1	86	axe	nr Drogheda	O 3127	Bristol	greenstone	
2	932	b-a	Tara, Mound of the Hostages	N 292260	Dublin	pottery ?	

Co Roscommon

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1	925	axe	Boyle	G 180303	Dublin	IX	

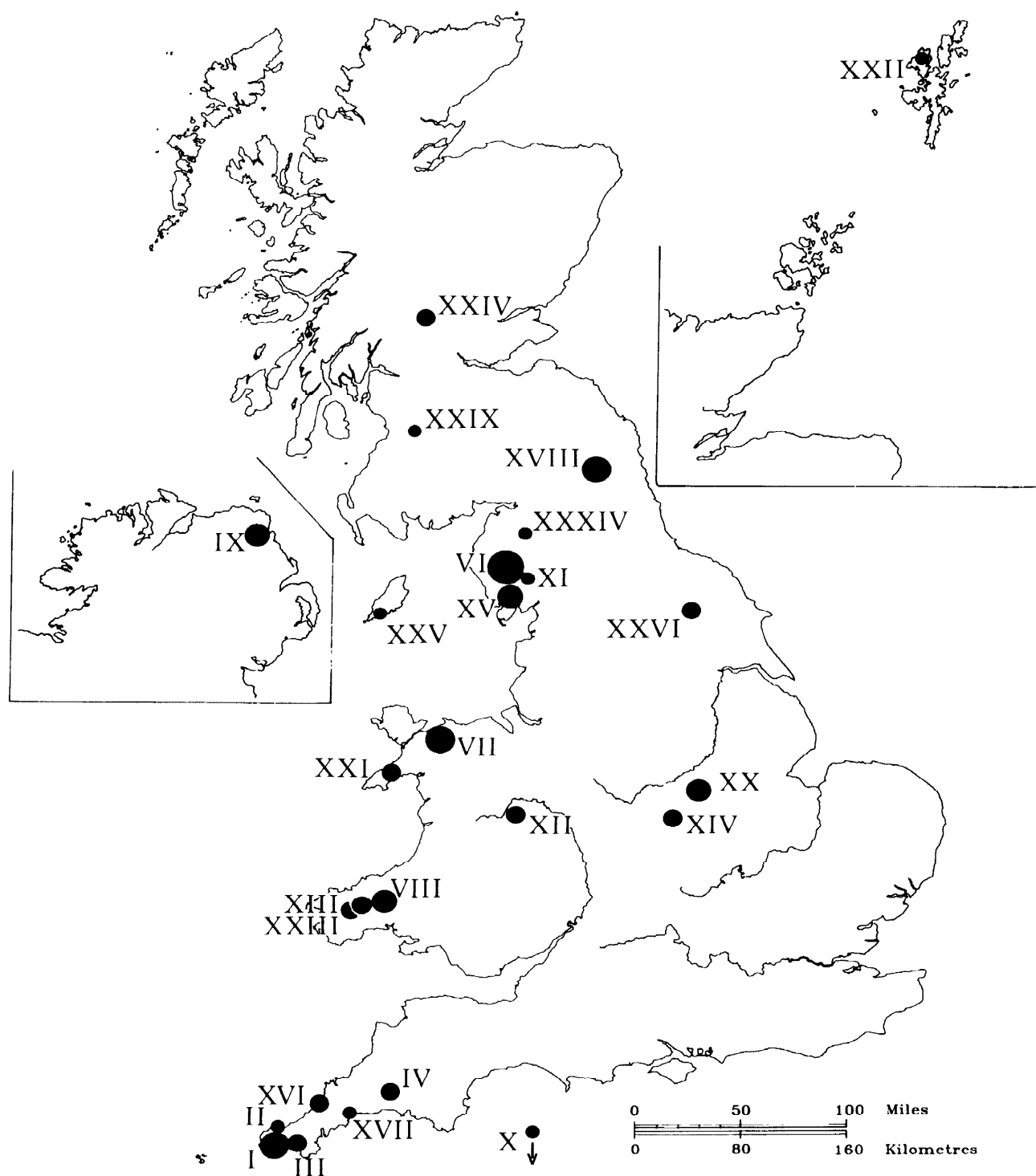
Ulster and Ireland (unlocated)

No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
1		axe	Lyle's Hill, Antrim	J 2583	Queen's Univ (Evans)	IX	
4		axe	Lyle's Hill, Antrim	J 2483	Queen's Univ (Evans)	IX	clay ironstone
5		axe	Lyle's Hill, Antrim	J 2483	Queen's Univ (Evans)	IX	black hornfels
6		axe	Antrim Town, Antrim	J 1586	Queen's Univ (Jope)	IX	black hornfels
7		axe	Tannyrarkin, Derry	C 8410	Ulster Mus	IX	
8		axe	nr Ballymena, Anti-in	D 1003	Queen's Univ (Jope)	IX	black hornfels
9		axe	Tyrone House, Malone Rd, Belfast, Antrim	J 333723	Queen's Univ (Jope)	IX	amphibolite
13		axe	Downpatrick Cathedral, Down	J 482445	Ulster Mus	IX	
14		axe	The Cutts, R Ban, Coleraine De-try	C 857303	Ulster Mus	IX	
15		axe	Loughan Island, R Bann Derry	C 878288	Queen's Univ	IX	black hornfels
16		axe	Dervock, Antrim	D 9731	Ulster Mus	IX	
17		axe	Knockbane, Antrim	D 0538	Ulster Mus	IX	
18		adze	Sallycastle, Antrim	D 1140	Queen's Univ	IX	
19		axe	Ballyemon Glen, Antrim	D 2125	pp	IX	
20		axe	Knockagh, Antrim	J 364870	Queen's Univ (Evans)	IX	
21		hammerstone	Rathlin, Antrim	D 1551	Queen's Univ	IX	riebeckite microgranite (Ailsa Craig)
23		axe	Garvagh, Derry	C 8416	Queen's Univ	IX	
24		axe	Ballymacreevan, Lough Neagh	-	Queen's Univ (Jope)	IX	soft black shale
25		axe, fr	Finvoy, Antrim	C 956190	pp	IX	
26		axe, fr	Lough Guile, Antrim	D 0624	pp	IX	
27		axe, fr	Connor, Antrim	J 1596	pp	IX	
28		axe, fr	Squire's Hill, Anti-in	J 3079	Queen's Univ (Evans)	IX	
29		axe	Ballyhome, Antrim	C 8938	Queen's Univ (Evans)	IX	
30		axe	Toome, Antrim	H 9990	Armagh Mus 1927-4379	IX	
31		axe	Fermanagh	-	Armagh Mus 1927-4558	IX	
34		axe	Toome, Antrim	H 9990	Ulster 1865 (1928-43 97)	IX	fine grained laminated mudstone
37		axe	Antrim	-	Ash M 1898-1886	VI ? (intermediate tuff)	
42		axe	Loughaveema, Antrim	D 206360	Queen's Univ (Jope)	IX	
57		axe	Downpatrick, Down	J 4844	Queen's Univ (Proudfoot)	IX	chlorite hornblende schist
60		axe, flake	Lyle's Hill, Antrim	J 2483	Queen's Univ (Evans)	IX	intermediate tuff
66		axe	Toome, Antrim	H 9990	Ulster Mus 4416-1927	IX	
67		axe	Culbane, Derry	c 9700	(?) 254/58 17A	IX	
68		axe	Culbane, Derry	c 9700	(?) 254/58 17B	IX	
69		axe	Culbane, Derry	c 9700	(?) 254/58 17C	IX	
70		axe	Culbane, Derry	C 9700	(?) 254/59 Aug 1902	IX	
74		axe	Ballymuragh, Antrim	-	-	IX	
75		axe	Six Mile Water, Antrim	J 8724	-	IX	
77		axe	Knockveagh Cairn, Down	J 188377	Queen's Univ	IX	hornblende schist
78		axe	Knockveagh, Down	-	Queen's Univ	IX	partly saussuritised quartz dolerite
90		axe	Owenreagh, Derry	H 7591	Queen's Univ	IX	vein quartz
91		axe	Clogh, Antrim	D 086146	-	IX	
92		axe	Ballycullen, Armagh	H 8453	-	IX	
93		axe	Ballycullen, Armagh	H 8453	-	IX	
103		axe	Ballyracash, Antrim	J 237658	-	IX	
108		axe	Portglenone Demesne, Antrim	C 9804	-	IX	
110		axe	Ballyward, Drungooland, Down	J 4143	Queen's Univ (Jope)	IX	dacitic tuff
112		adze	Portglenone, Antrim	c 9703	Queen's Univ	IX	fine grained hornblende schist
113		axe	Portglenone, Antrim	c 9703	Queen's Univ	IX	andesitic lava
114		axe	Achinlig, Armagh	H 8654	-	IX	
115		axe	Lisnagaver, Antrim	C 9513	-	IX	
116		axe	Kilrea, Antrim	D 9212	-	IX	
120		axe or mace	unknown	-	Archaeol Survey BBTN /54 19/1	IX	pyroxene granodiorite
141		axe	Rathtrillick, Armagh	H 758329	Armagh 196.1936	IX	saussuritised quartz gabbro
142		axe	Knockbane, Armagh	H 7536	Armagh 83.1935	IX	amphibolite
143		axe	Lislooney, Armagh	H 776425	Armagh 85.1935	IX	basic intermediate metalava
144		axe	Rathcumber, Arragh	H 7734	Armagh 86.1935	IX	black hornfels
145		axe	Unshog, Armagh	H 7837	Armagh 21.1945	IX	basic intermediate metalava
146		axe	Portnelligan, Armagh	H 7938	Armagh 89.1935	IX	basic intermediate metalava
147		axe	Coney Is, Derry	H 975931	Ulster Mus 114.1955	IX	
148		axe	Coney Is, Derry	H 975931	Queen's Univ (Proudfoot)	IX	banded black mudstone
149		axe	Larryban, Antrim	D 04852	Queen's Univ (Proudfoot)	IX	laminated shale
158		axe	Portora, R Erne, Fermanagh	H 225450	Archaeol Survey	IX	basic intermediate metalava
159		axe	Portora, R Erne, Fermanagh	H 225450	Archaeol Survey	IX	calcareous metasiltstone
160		axe	Portora, R Erne, Fermanagh	H 225450	Archaeol Survey	IX	saussuritised quartz gabbro
161		axe	Portora, R Erne, Fermanagh	H 225450	Archaeol Survey	IX	saussuritised quartz gabbro
162		axe	Portora, R Erne, Fermanagh	H 225450	Archaeol Survey	IX	saussuritised quartz gabbro
163		axe	Portora, R Erne, Fermanagh	H 225450	Archaeol Survey	IX	saussuritised quartz gabbro
164		axe	Tannamore, Dungannon, Tyrone	H 7962	Queen's Univ	IX	well bedded sandstone
166		axe	Townley Hall, Louth	O 2277	Queen's Univ	IX	well bedded siltstone
175		axe	Dundrum, Down	J 4036	Ulster 37923 H23.32	IX	saussuritised quartz gabbro
176		axe	Crebilly, Down	D 1303	Ulster BMAG 612.1927	IX	clay sandstone
178		axe	Down	-	Ulster BMAG 612.1922 (Morrow)	IX	hard black porcellanite hornfels
180		axe	Antrim	-	Ulster BNHPS 1911.24	IX	saussuritised dolerite amphibolite
182		axe	Antrim	-	Ulster BNHPS 1911.24	IX	saussuritised quartz gabbro
163		axe	Antrim	-	Ulster BNHPS 1911.24	IX	
184		axe	Antrim	-	Ulster BNHPS 1911.24	IX	

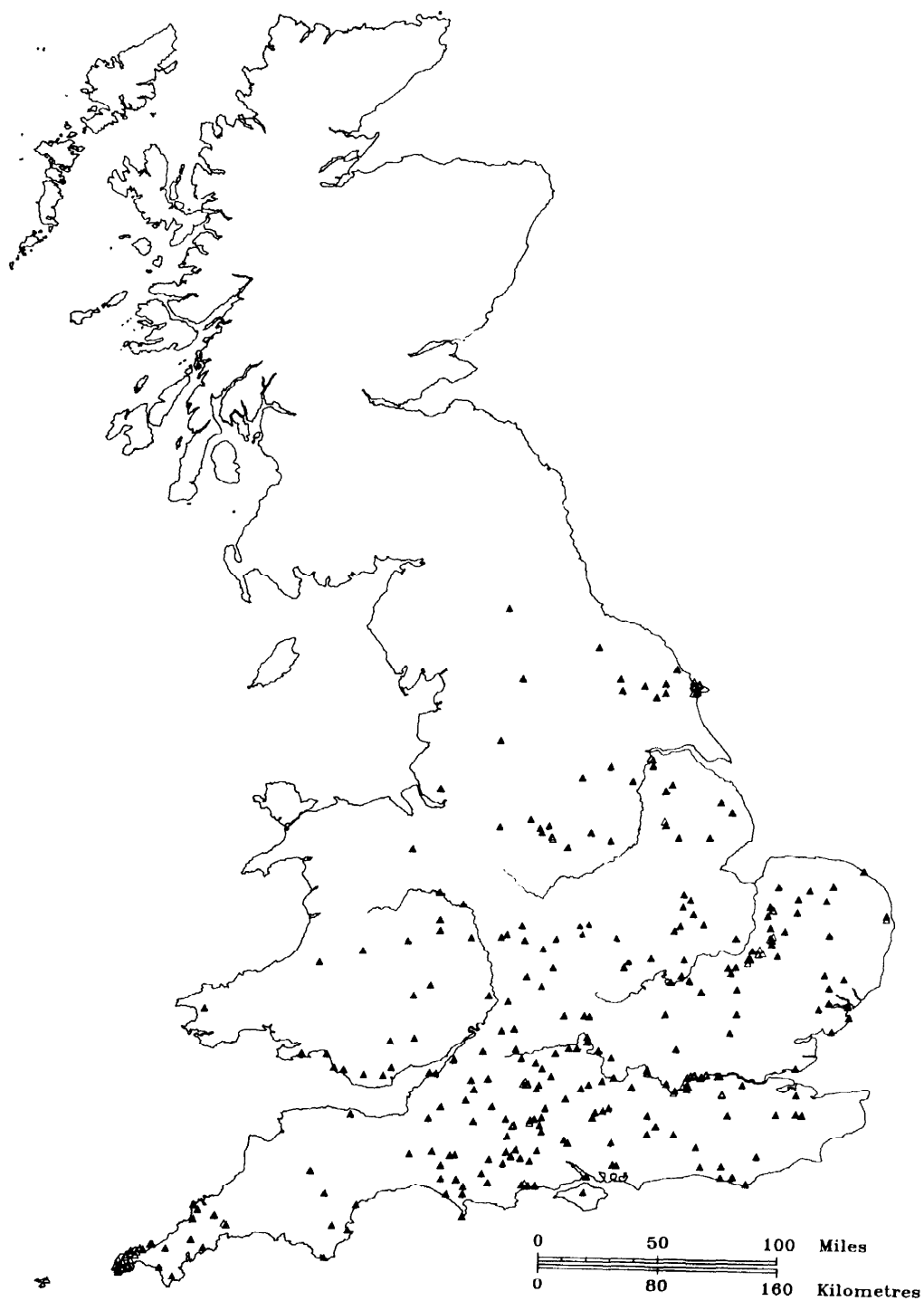
No.	Ser.	implement	Locality	N.G.R.	Accession	Petrology	Note
185		axe		-	Ulster BNHPS 1911.24	IX	
186		axe	Antrim	-	6 V/2 Ulster BNHPS 1911 24	saussuritised quartz gabbro	
187		axe	Antrim	-	6 E/8 Ulster BNHPS 1911.24	saussuritised quartz gabbro	
195		axe	R Bann, Down	-	6 L/8 Ulster 612.1922Z (Morrow)	amphibolite	
196		axe	Down	-	Ulster BMAG, 612-192C (Morrow)	intermediate metalava	
197		axe	Lurgan, Armagh	J 0858	Queen's Univ (Jope)	light grey laminated shale	
220		hammer	Killyleagh, Down	J 5252	Ulster, DB/600	quartzite	
221		axe	Moymucklemurry, Derry	H 8786	P, Collins (Arch Survey)	IX	
222		axe	Selshan, Antrim	J 0868	P, Collins (Arch Survey)	IX	
223		axe	Culnafay Diatomite, Antrim	J 0097	Archaeol Survey	indurated black mudstone	
224		axe	Castledawson, Derry	H 9293	Archaeol Survey	schist	
226		axe	Dalkey Is, Dublin	O 285281	Archaeol Survey 284A	fine grained hornblende schist	
227		axe	Dalkey Is, Dublin	O 2827	(?) 530(2584)	saussuritised quartz dolerite	
229		axe	Dalkey Is, Dublin	O 2827	Archaeol Survey 125	fine grained tremolite hornblende schist	
230		axe	Dalkey Is, Dublin	O 2827	Archaeol Survey 218	fine grained quartz hornblende schist	
231		axe	Dalkey Is, Dublin	O 284261	(3) Arch Survey 541	medium grained hornblende schist	
232		axe	Dalkey Is, Dublin	O 2827	(?) 24	partly altered gabbro	
233		axe	Dalkey Is, Dublin	O 285261	(3) Arch Survey 317	hornblende schist	
234		axe	Dalkey Is, Dublin	O 285261	(3) Arch Survey 518	hornblende schist	
235		axe	Dalkey Is, Dublin	O 2827	(?) 310	amphibolised porphyritic dolerite	
236		axe	Dalkey Is, Dublin	O 2827	(?) 505 (2173)	fresh fine grained basalt	
237		axe	Dalkey Is, Dublin	O 2827	(?) (1118)	fine grained amygdaloidal basalt	
238		axe	Dalkey Is, Dublin	O 2827	(?) (504)	saussuritised dolerite	
241		axe	Sheepand, Down	J 5737	D, Waterman	IX	
242		axe	Downpatrick, Down	J 4944	D, Waterman	IX	
243		axe	Bed of Silles, R Ross, Fermanagh	H 1346	Ulster, April 1962	hornblende gabbro	
244		axe	Moynemore, Derry	H 8683	Archaeol Survey	greywacke with fine zones	
245		axe	-	-	Ulster Mus (Flanagan)	IX	
246		axe	Gribbon's point, Mouth of R Bann, Derry	C 7036	Muss pp, via Ulster	greywacke	
249		axe	Portglenone, Antrim	C 9703	Ulster BNHPS 1911-22	VI	
250		axe	Neolithic site, Dundrum sandhills, Down	J 4036	9 Ulster, Downshire, 55-1924	VI	
251		axe	Malone, Belfast, Antrim	J 3372	Ulster BNHPS 1911-221	VI	
252		axe	Cushendal, Antrim	D 2327	Ulster, Milligan, 208-1911	VI	
254		axe	Ballycastle, Antrim	D 1140	Ulster, Day, 1888: 162.1913G	metalava of intermediate composition	
255		axe	-	-	Ulster 163.1913B	IX	
256		axe	Ormeau Br, Belfast, Antrim	J 344725	Ulster F11.1930	metalava of intermediate composition	
259		axe	Fair Head, Antrim	D 1483	Ulster, Grainger, 3799, 24-5	saussuritised quartz dolerite	
280		axe	R Bann, Antrim/Derry	-	Ulster, McQuiston, 3-1935A	metalava of intermediate composition	
268		axe	R Bann, Antrim/Derry	-	Ulster BMAG (Miss Mullen)	soft black mudstone	
269		axe	R Bann, Antrim/Derry	-	Ulster, for Miss Mullen	fine grained hornblende quartz schist	
270		axe	R Bann, Antrim/Derry	-	Ulster, for Miss Mullen	soft light grey shale, partly ironstained	
273		axe	Blaris, Down	J 2462	Ulster (for McKeown)	medium grained hornblende dolerite	
274		axe	Dundrum, Down	J 4036	Ulster, Grainger 3792G	soft laminated grey shale	
275		axe	Dundrum, Down	J 4036	Ulster, Grainger, 37920	hard laminated grey shale	
276		axe	Dundrum, Down	J 4038	Ulster, Grainger, 3792P	soft dark grey shale	
277		axe	R Bann, Coleraine, Derry	C 8533	Ulster BMAG 389.1907 A (Martin)	hard grey shale	
278		axe	Ormeau, Belfast, Antrim	J 3472	Ulster BMAG 182.1913 A (Day)	soft grey shale	
279		axe	Crannog, Permainagh	-	Ulster BMAG 187.1913	very soft grey shale	
280		axe	Ballintoy, Antrim	D 0444	Ulster BMAG 1.1914 (Milligan)	brown shale	
281		axe	Hillsborough, Down	J 5924	Ulster BMAG 31.1924	black laminated mudstone	
282		axe	Bann Valley, Antrim	-	Ulster BMAE 207.1927 D	shale	
283		axe	Bann Valley, Antrim	-	Ulster BMAE 207.1927 J	laminated grey shale	
284		axe	Toome, Antrim	H 9990	Ulster BMAE 672.1930 V	shale	
285		axe	Toome, Antrim	H 9990	Ulster BMAE 872.1930 Z	shale	
286		axe	Toome, Antrim	H 9990	Ulster BMAE 872.1930 AA	dark shale	
287		axe	Toome, Antrim	H 9990	Ulster BMAE 872.1930 DD	soft black shale	

No.	ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
288		axe	Toome, Antrim	H 9990	Ulster BMAE 672.1930 JJ	mudstone	
289		axe	Toome, Antrim	H 9990	Ulster BMAE 672.1930 NN	soft laminated shale	
290		axe	Toome, Antrim	H 9990	Ulster BMAE 672.1930 OO	shale	
291		axe	Toome, Antrim	H 9990	Ulster BMAE 672.1930 PP	soft black shale	
292		axe	Toome, Antrim	H 9990	Ulster BMAE 672.1930 RR	shale	
293		axe	R Bann, Coleraine, Derry	C 8533	Ulster BMAE 925.1930	shale	
294		axe	R Bann, Derry	C 8533	Ulster BMAE 242.1934 (D'Evelyn)	laminated shale	
295		axe	Portna, Antrim/Derry	C 945121	Ulster BMAE 246.1934A	black laminated shale	
296		axe	Beneath 30' bog, McCarroll's bank, Moneygram bog, Derry	C 945110	Ulster BMAE 158.1954	soft grey shale	
297		axe	The Cutts, R Bann, Derry	C 857303	Ulster BMAE L3, 1938	laminated grey shale	
298		axe	Kishnareen br, Tullvrevan, Loughall, Armagh	H 9151	Archaeol Survey	black mudstone	
299		axe	Hillsborough, Down	J 5924	Ulster BMAE 57	siltstone	
300		axe	Toome, Antrim	H 9990	Ulster BMAE 672.1930 MM	laminated siltstone	
301		axe	Toome, Antrim	H 9990	Ulster BMAE 672.1930 SS	laminated siltstone	
302		axe	Toome, Antrim	H 9990	Ulster BMAE 672.1930 TT	laminated siltstone	
303		axe	R Bann, Antrim/Derry	-	Ulster BMAE 242.1934 C	siltstone	
304		axe	Dundrum, Down	J 4036	Ulster, Grainger, 37 92C	coarse grit	
305		axe	Toome, Antrim	H 9990	Ulster BMAE 672.1930 II	flaggy sandstone	
306		axe	Toome, Antrim	H 9990	Ulster BMAE 672.1930 LL	fine grained sandstone	
307		axe	Crebilly, Antrim	D 1303	Ulster BMAG 612.1922 QQ	massive sandstone	
308		axe	Bann Valley, Antrim	-	Ulster BMAG 612.1927 A (Clark)	clay ironstone	
309		axe	Hillsborough, Down	J 5924	Ulster BMAE 32.1924	chert (silicified fine grained sediment)	
310		misc, spike	Bann Valley, Antrim/Derry	-	Ulster (No collection no)	chert (Bann type)	
311		axe	Dundrum, Down	J 4036	Ulster, Crainger, 37 92R	schist	
312		axe	Ballymena, Antrim	D 1003	Ulster BMAE 210.1911	schist	
313		axe	Ballycastle, Antrim	D 1140	Ulster BMAE 163.1913 F	schist	
314		axe	Bann Valley, Antrim/Derry	-	Ulster BMAE 207.1927 S	schist	
315		axe	Toome, Antrim	H 9990	Ulster BMAE 672.1930X	chlorite schist	
316		axe	Toome, Antrim	H 9990	Ulster BMAE 672.1930 BB	fine grained schist	
317		axe	Toome, Antrim	H 9990	Ulster BMAE 672.1930 Y	schist	
318		axe	Toome, Antrim	H 9990	Ulster BMAE 672.1930 EE	chlorite schist	
319		axe	Toome, Antrim	H 9990	Ulster BMAE 672.1930 GG	schist	
320		axe	Toome, Antrim	H 9990	Ulster BMAE 672.1930 HH	quartzose schist	
321		axe	Toome, Antrim	H 9990	Ulster BMAE 672.1930 KK	schist	
322		axe	Toome, Antrim	H 9990	Ulster BMAE 672.1930 QQ	schist	
323		axe	Toome, Antrim	H 9990	Ulster BMAE 672.1930 UU	albite schist	
324		axe	Townparks, Antrim	-	Ulster BMAE 763.1930	schist	
325		axe	The Cutts, Derry	C 857303	Ulster BMAE L5.1938	albite schist	
326		axe	Dundrum, Down	J 0436	Ulster Grainger, 379 2K	hornblende schist	
327		axe	Hillsborough, Down	J 5924	Ulster BMAE 35	greenschist	
328		axe	Bann Valley, Antrim/Derry	-	Ulster BMAE 207.1927 H	amphibolite	
329		axe	Bann Valley, Antrim/Derry	-	Ulster BMAE 207.1927 Q	amphibolite	
330		axe	Northern Ireland	-	Ulster BMAE 762.1930	amphibolite	
331		axe	Kellstown, Racavan, Antrim	D 191049	Ulster BMAE 923.1030 A	amphibolite	
332		axe	Creeslough, Donegal	S 0631	Ulster BMAE 230.1952	amphibolite	
333		axe	Dundrum, Down	J 4036	Ulster, Grainger, 37 92B	dark grey hornfels	
334		axe	Dundrum, Down	J 4036	Ulster, Grainger, 37 921	black hornfels	
335		axe	Ballintoy, Antrim	D 0444	Ulster, Grainger, 37 97	hard grey hornfels	
336		axe	Bann Valley, Antrim/Derry	-	Ulster BMAE 207.1927 K	hard black hornfels	
337		axe	Bann Valley, Antrim/	-	Ulster BMAE 207.1927 T	hard black hornfels	
338		axe	Ormeau Br, Belfast	J 344725	Ulster BMAE 712.1930	hard black hornfels	
339		axe	Carrickfergus, Antrim	J 4187	Ulster BMAE 801.1930 B	hard black hornfels	

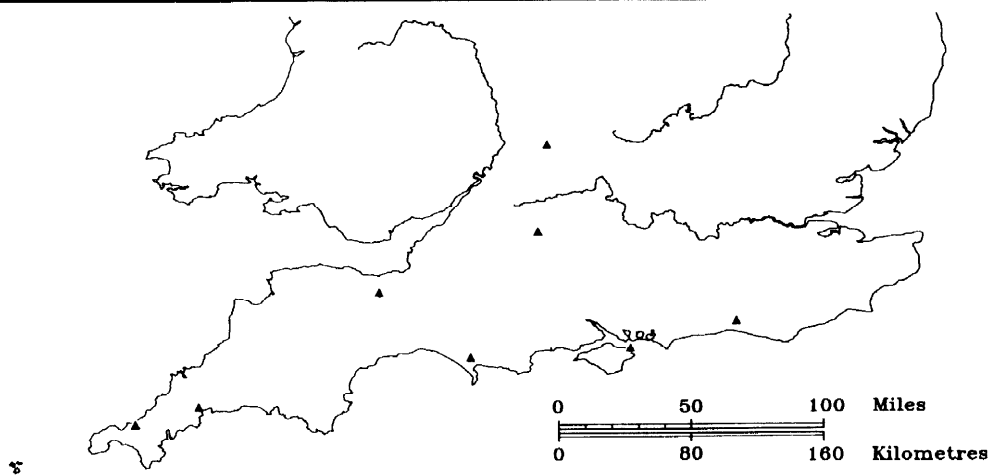
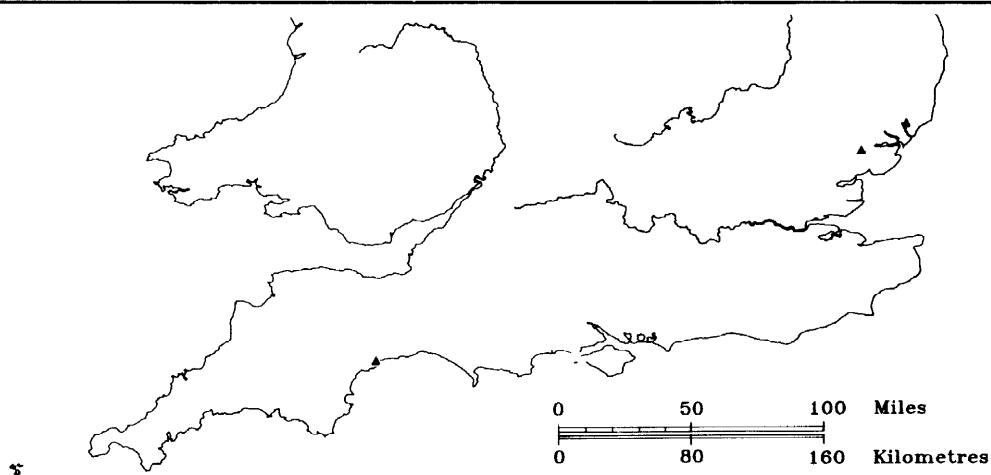
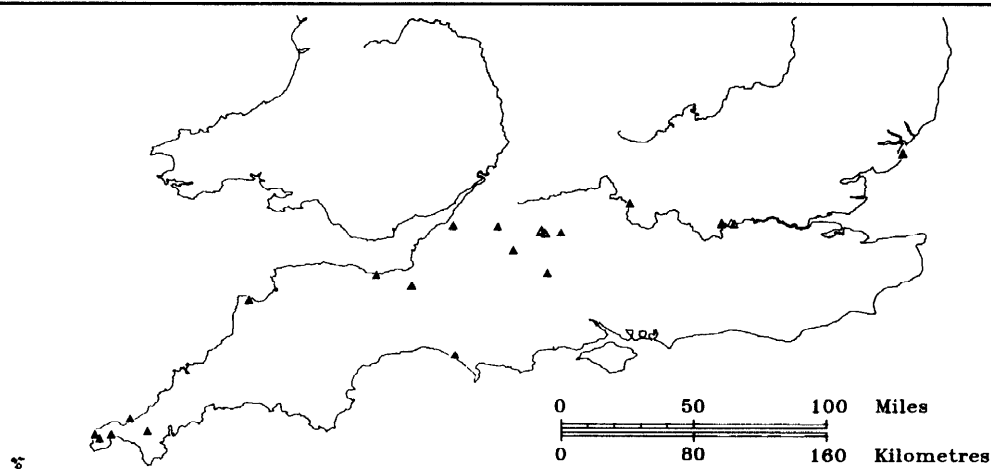
No.	Ser.	Implement	Locality	N.G.R.	Accession	Petrology	Note
340		axe	R Bann, Antrim/Derry	-	Ulster BMAE 3.1935C	hard black hornfels	
341		axe	R Bann, Toonme antrim	H 9990	Ulster BMAE L11.1932 A	hard black hornfels	
342		axe	R Bann, toome Antrim	H 9990	Ulster BMAE L43.1934	hard black hornfels	
343		axe	Ardglass, Down	J 5537	Ulster, BMAE, 2.1914	saussuritised quartz gabbro	
344		axe	N. Ireland	-	Ulster, BMAE. 735.19 30B	fresh basalt	



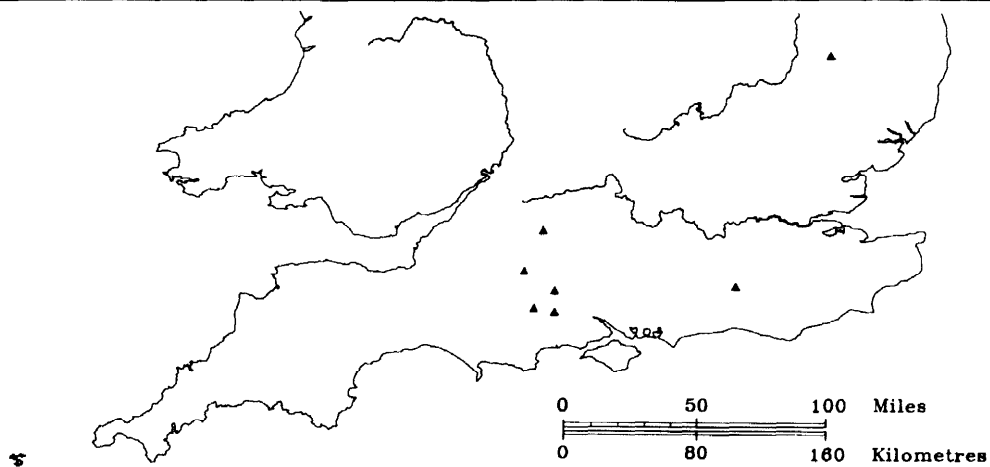
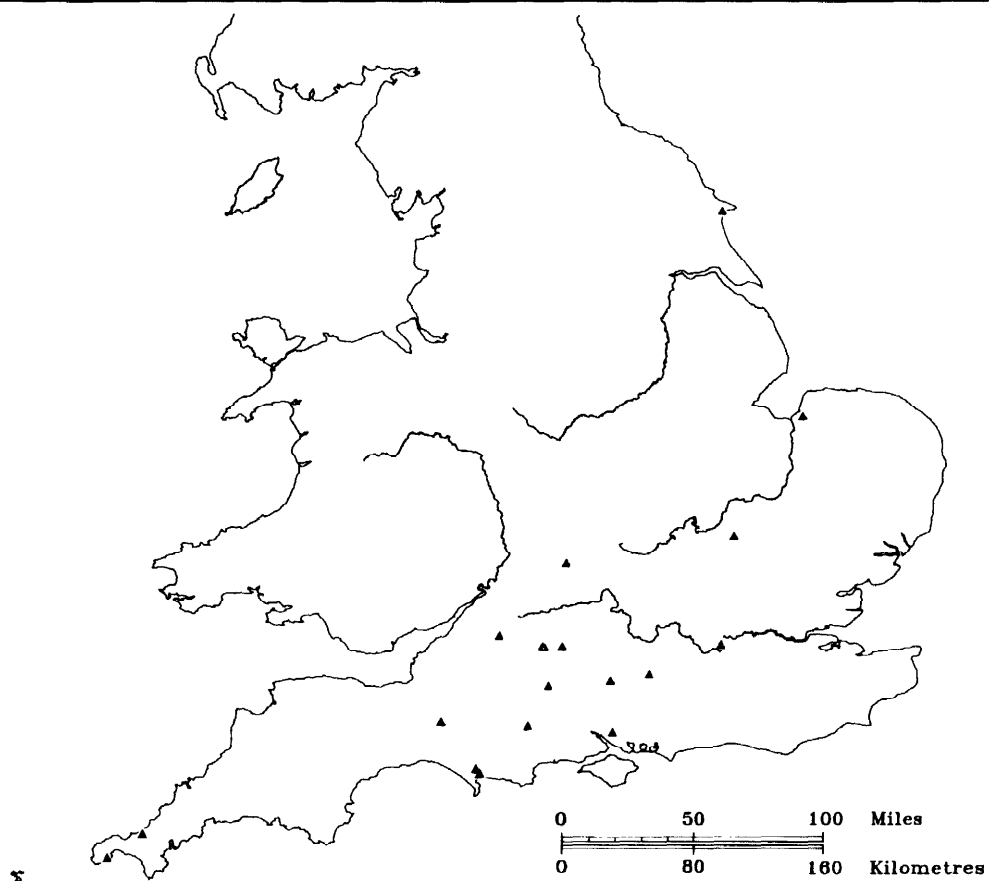
Map 1 The location of known and probable sources of grouped rocks in Great Britain; inset (left) Northern Ireland, (right) Orkney and Shetland Islands: smallest dots = 1-19 products; small dots = 20-99 products; medium dots = 100-249 products; large dots = 250-399 products; largest dot = over 1600 products. Groups Ia, IIa, IIIa, IVa, XIX, XXVII, XXVIII, XXX, XXXI, XXXII, and XXXIII are not shown. For details of individual groups, their sources and products, see Introduction, Tables 2 and 3.



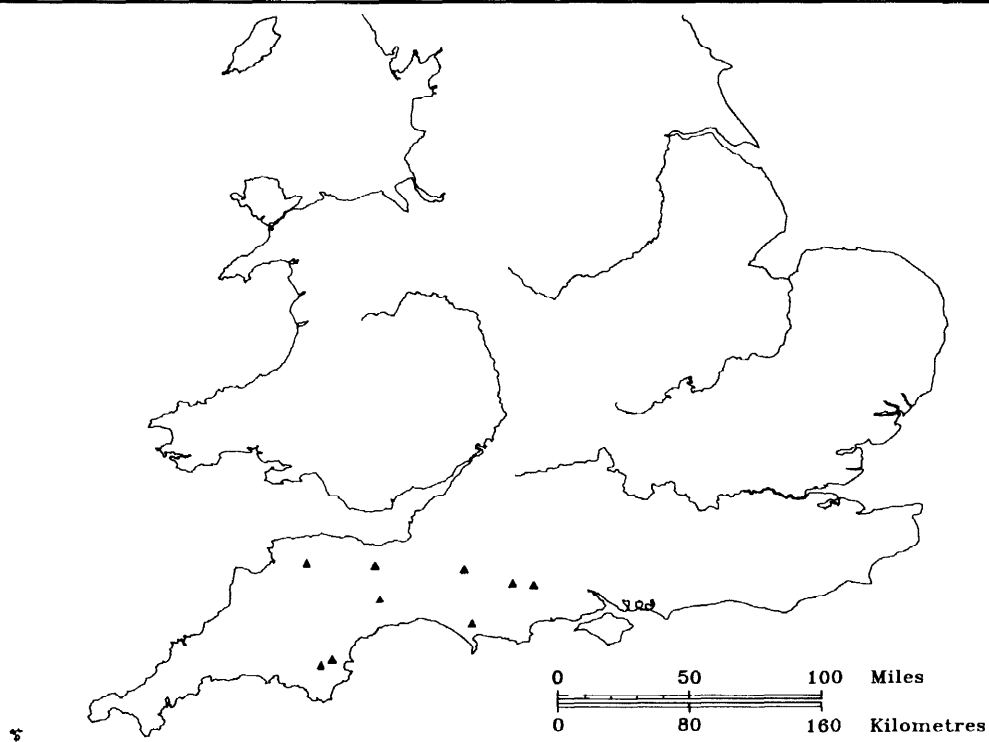
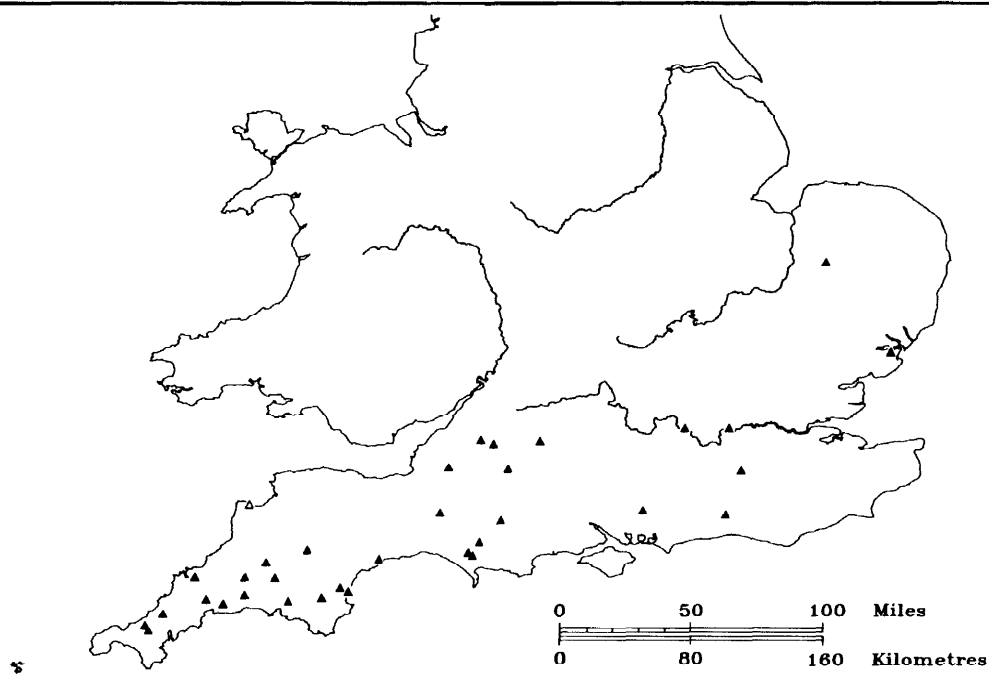
Map 2 The distribution of Group I and I/I a products



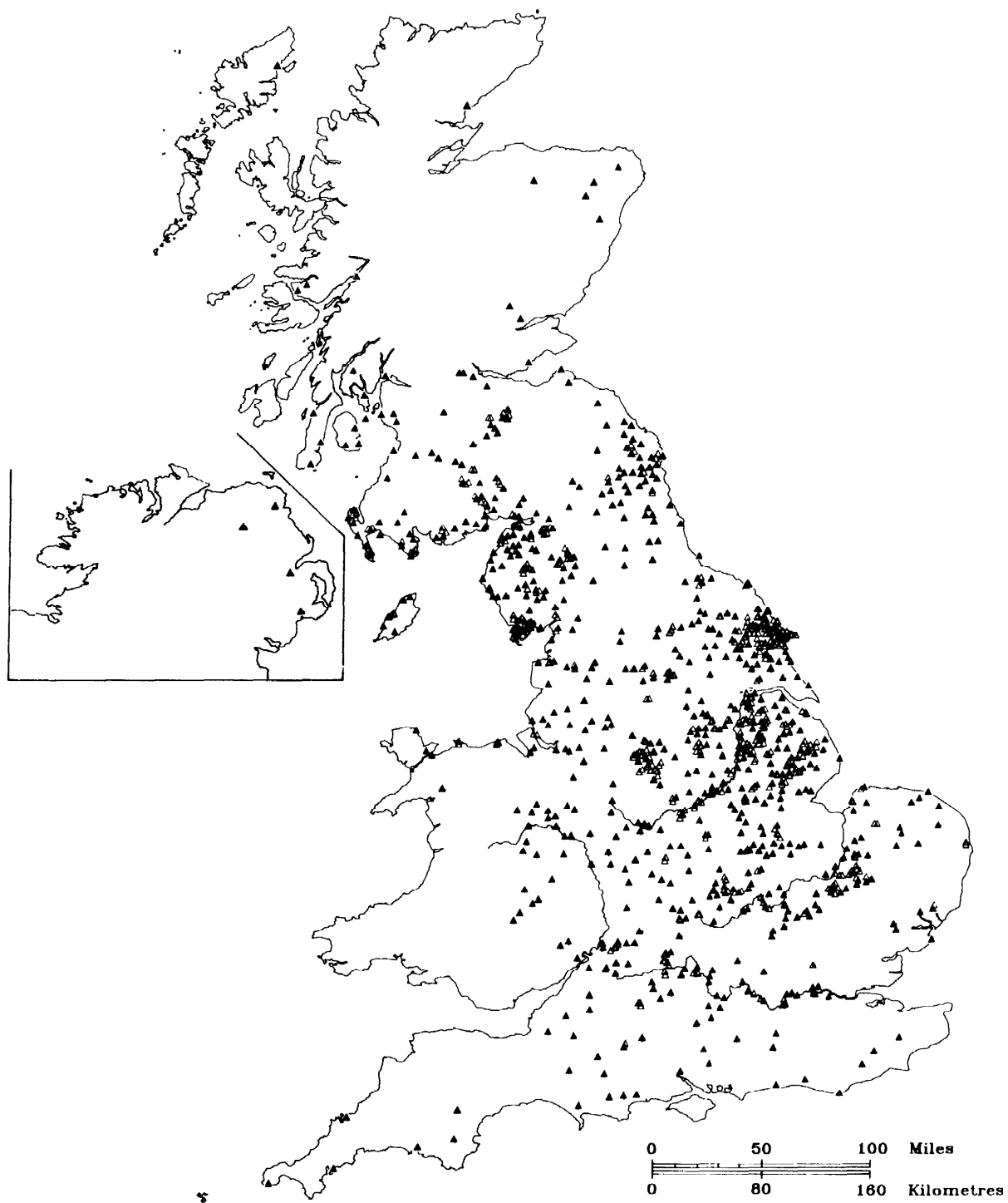
Map 3 The distribution of (above) Group Ia, (middle) Group II, and (below) Group II a products



Map 4 The distribution of (above) Group III, and (below) Group III a products



Map 5 The distribution of (above) Group IV, and (below) Group IV a products



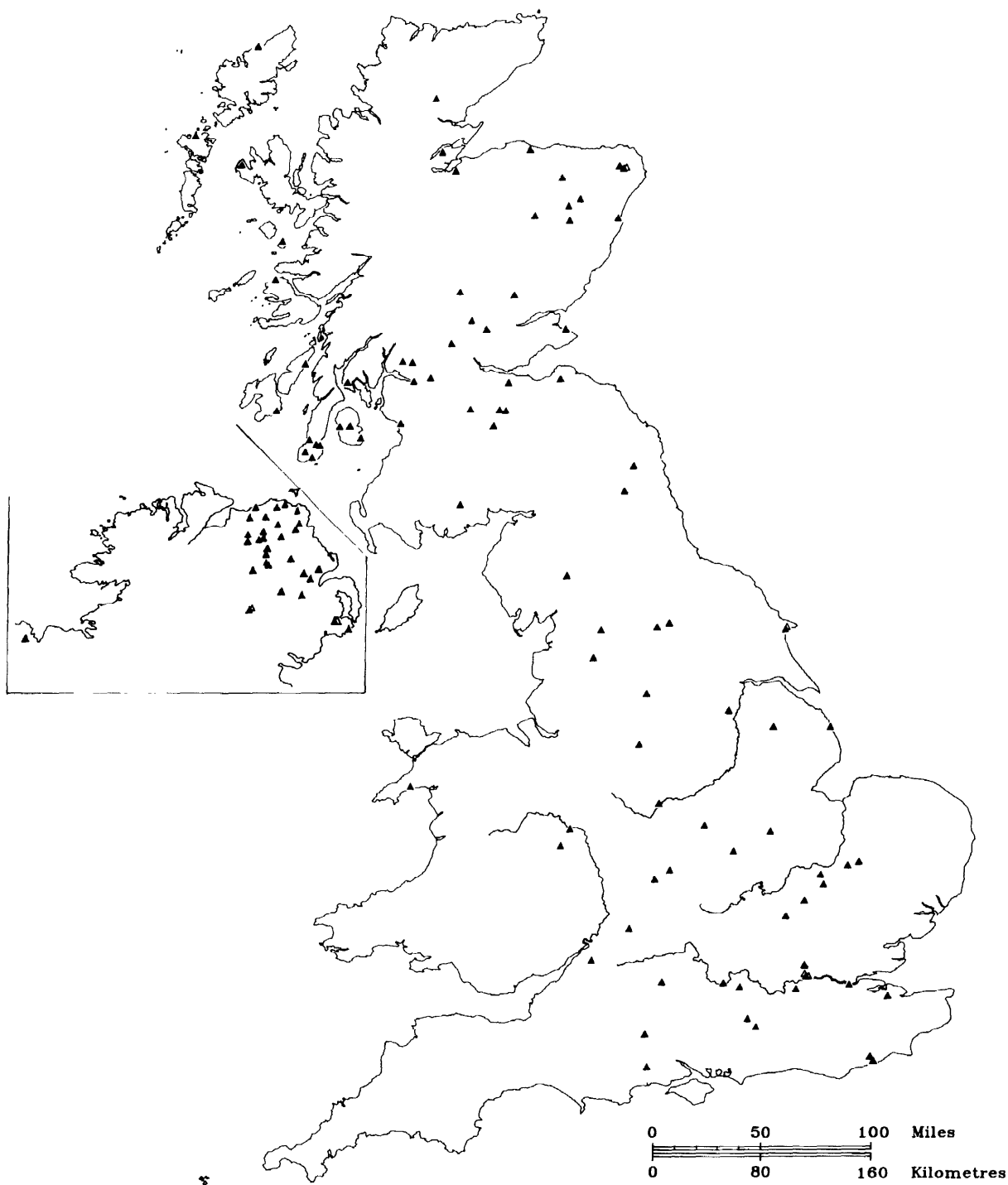
Map 6 The distribution of Group VI products (inset, Northern Ireland)



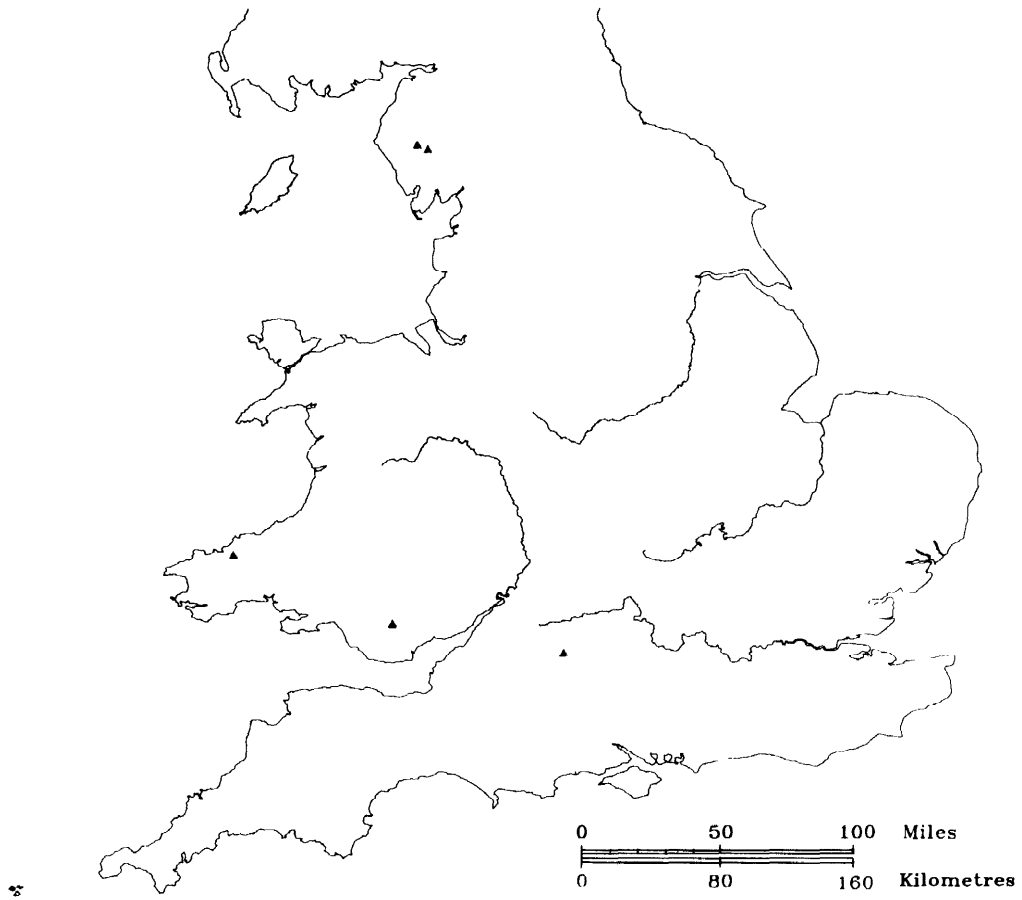
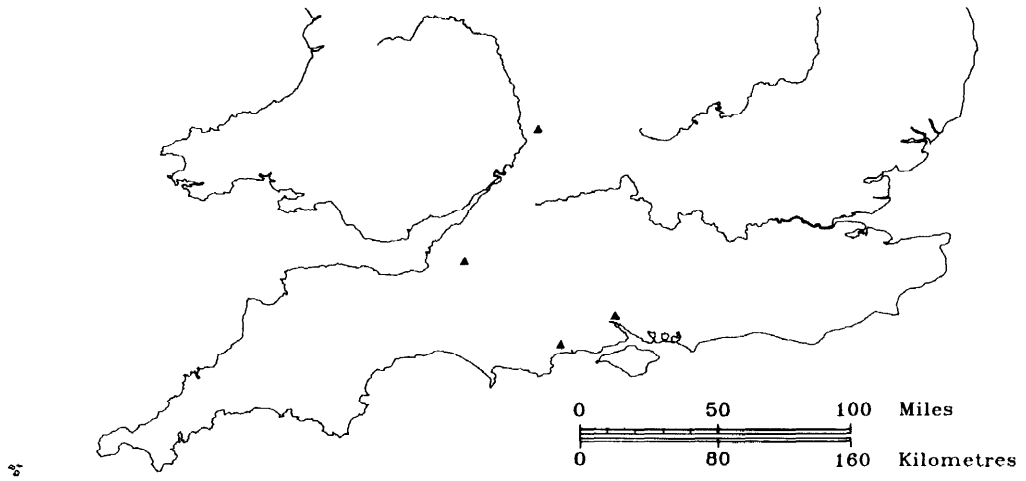
Map 7 The distribution of Group VII products



Map 8 The distribution of Group VIII products



Map 9 The distribution of Group IX products (inset, Northern Ireland)



Map 10 The distribution of (above) Group X, and (below) Group XI products



Map 11 The distribution of Group XII products



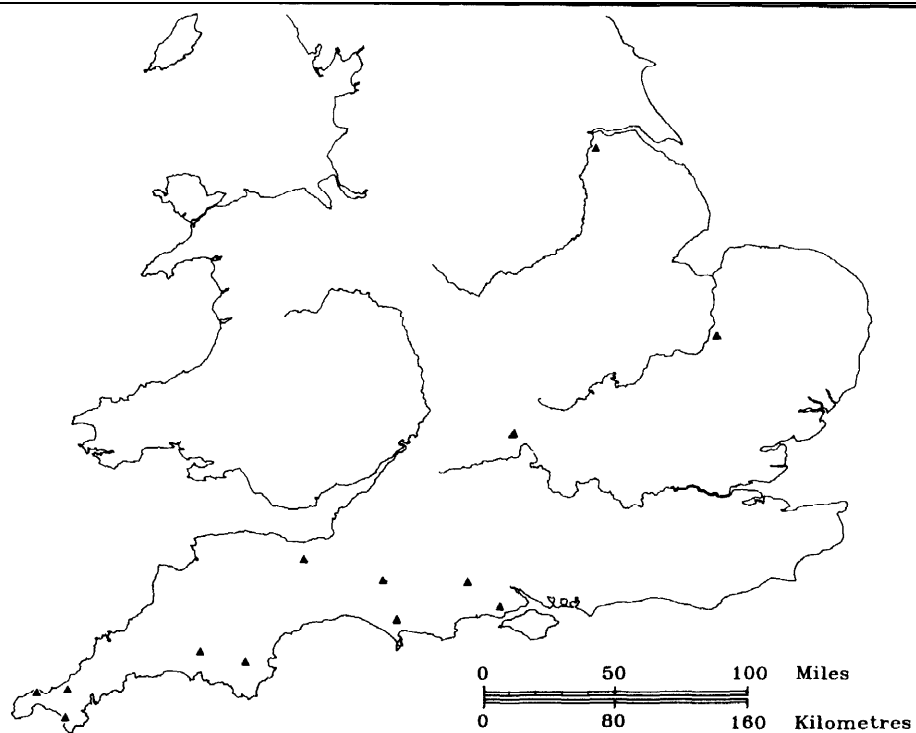
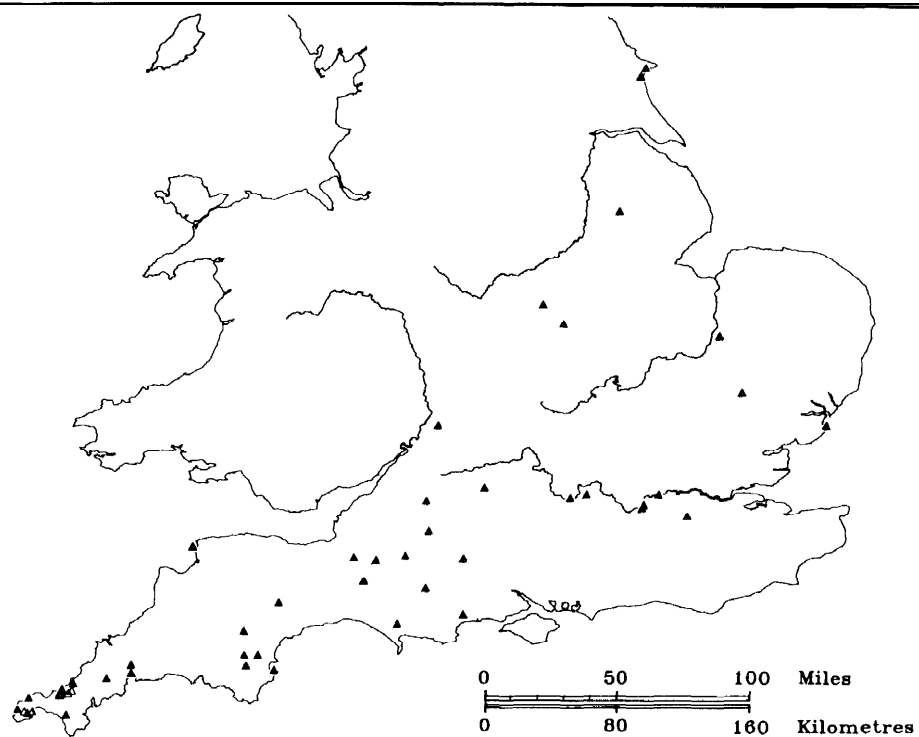
Map 12 The distribution of Group XIII products



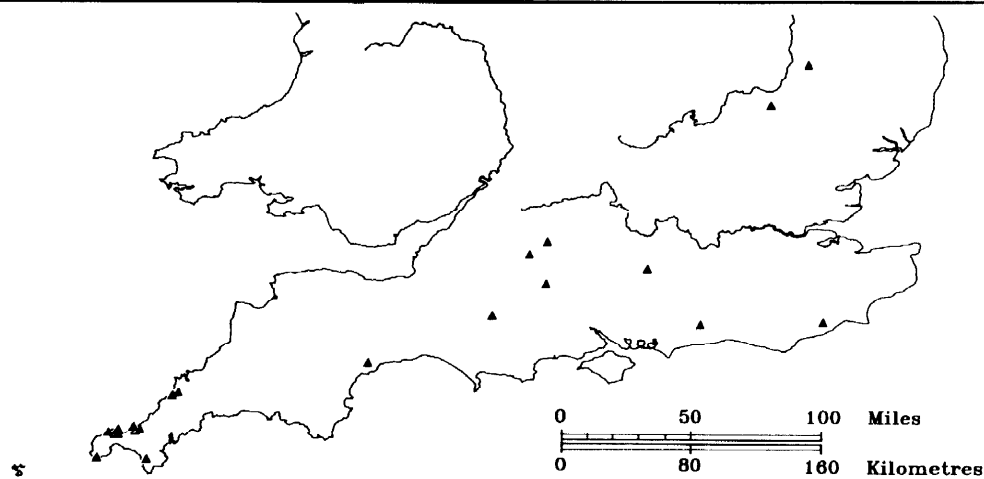
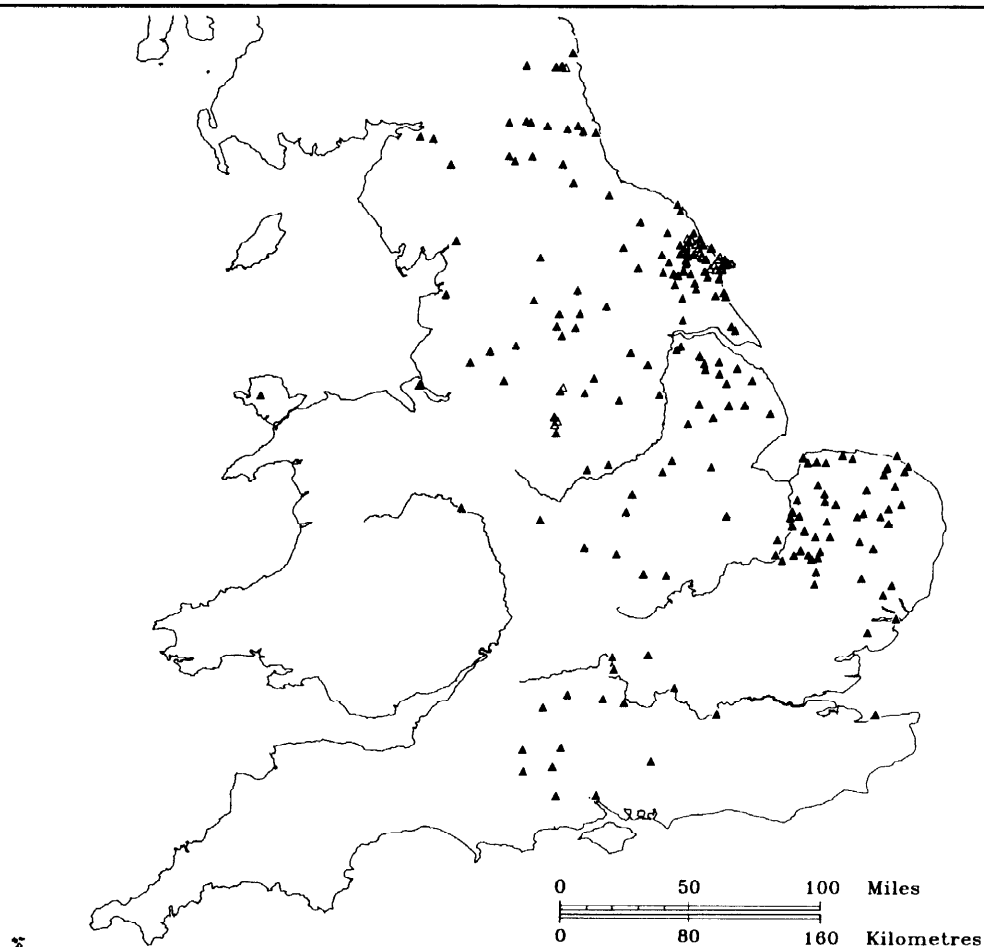
Map 13 The distribution of Group XIV products



Map 14 The distribution of Group XV products



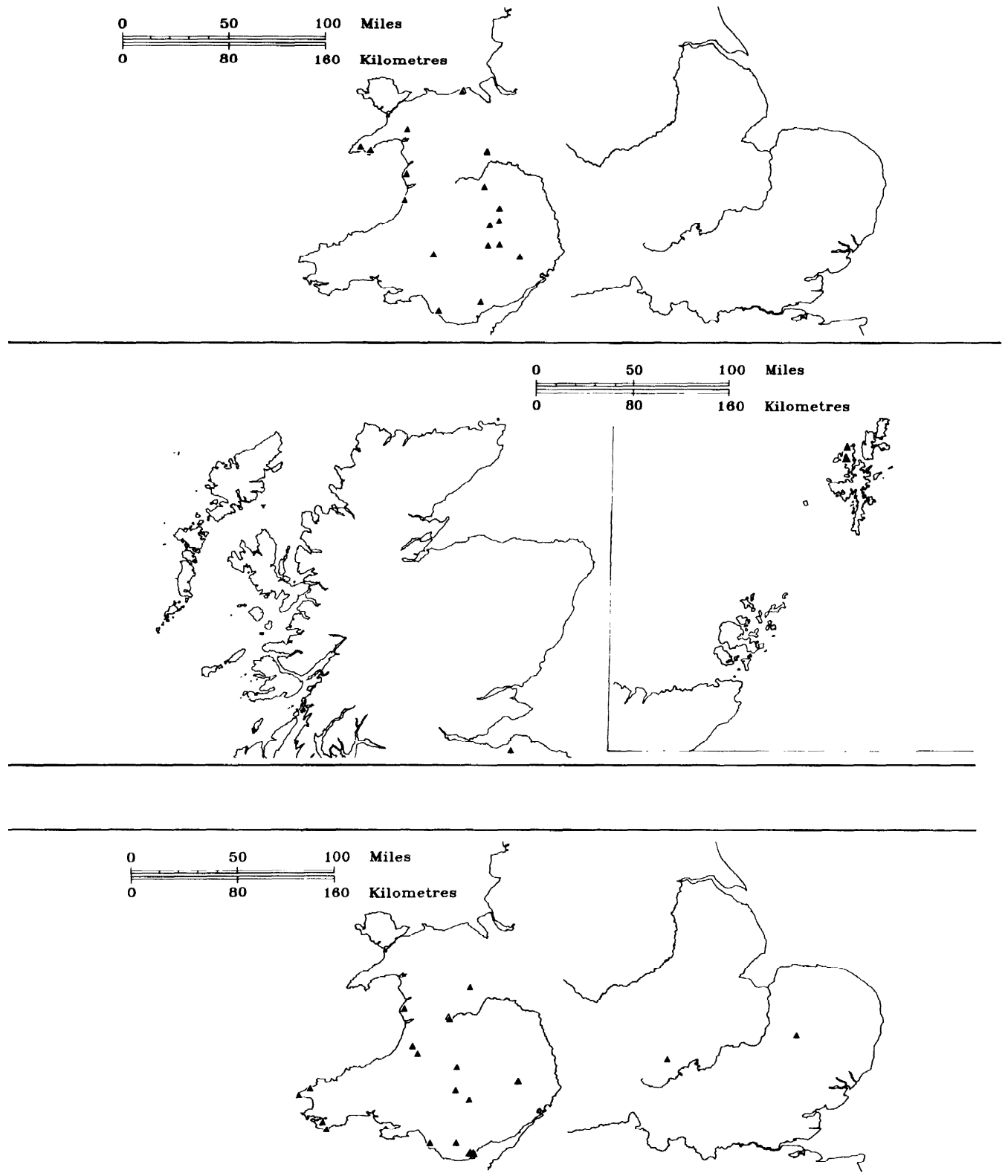
Map 15 The distribution of (above) Group XVI, and (below) Group XVII products



Map 16 The distribution of (above) Group XVIII, and (below) Group XIX products



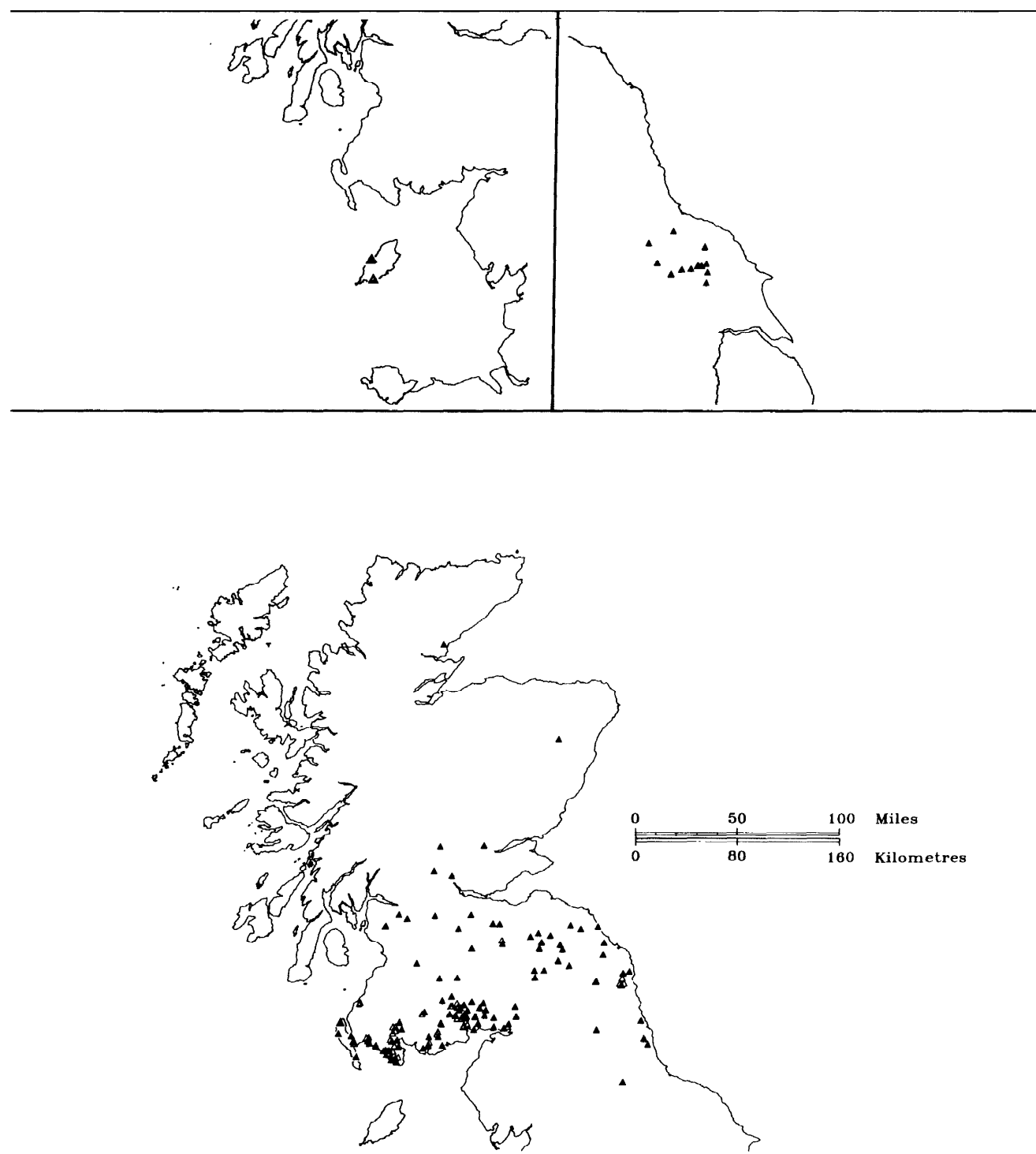
Map 17 The distribution of Group XX products



Map 18 The distribution of (above) Group XXI, (middle) Group XXII, and (below) Group XXIII products



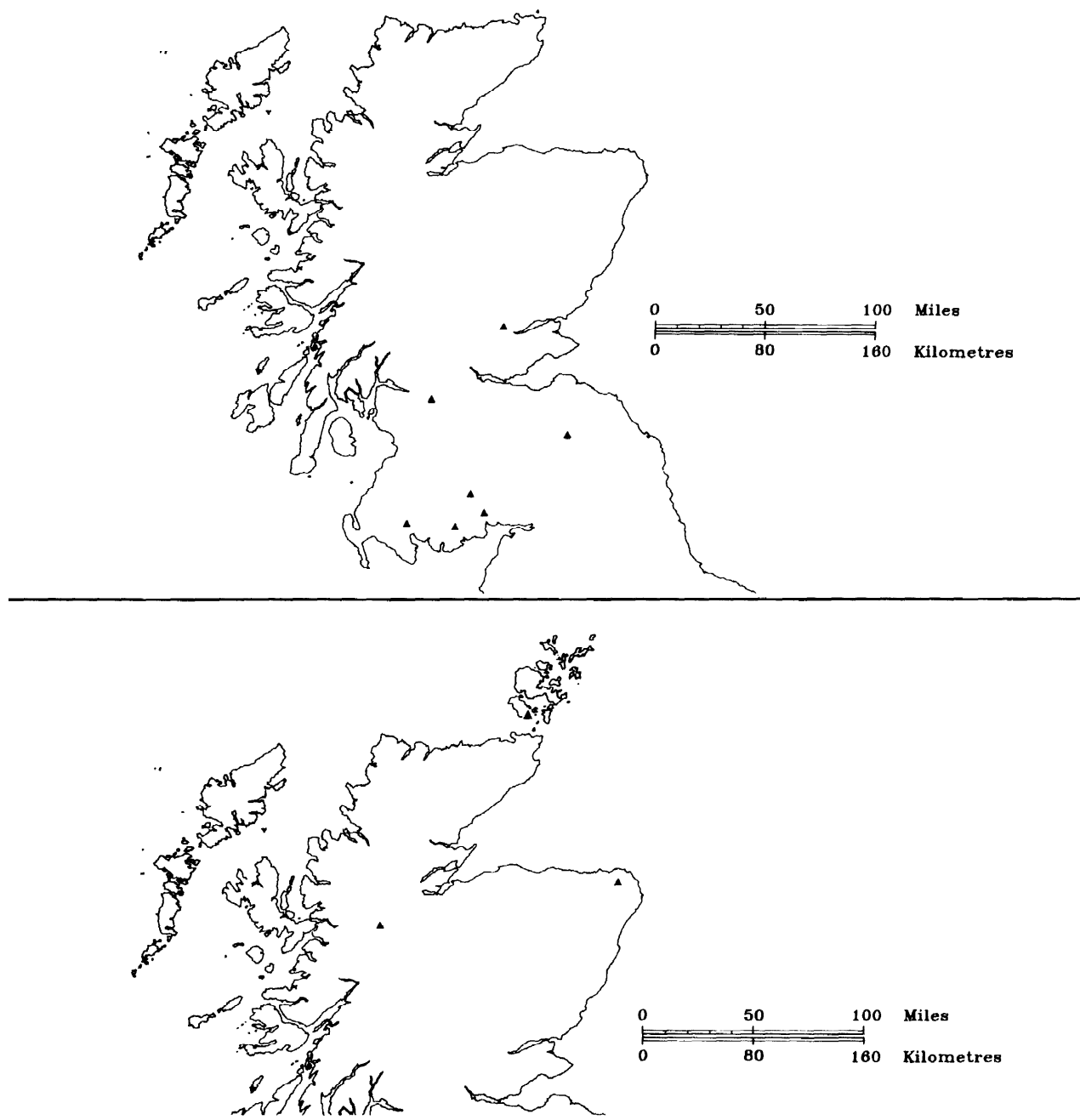
Map 19 The distribution of Group XXIV products



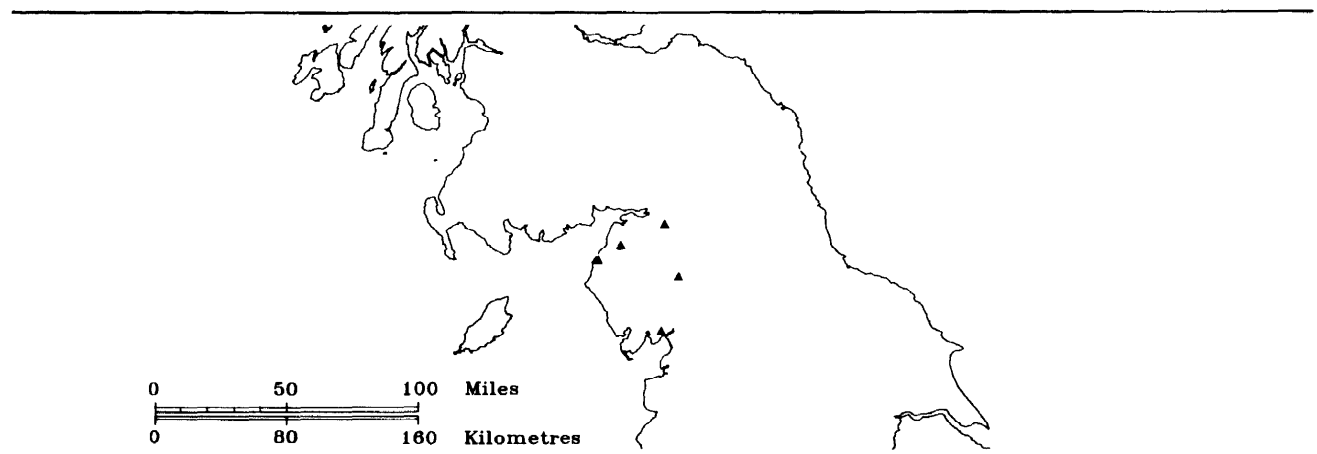
Map 20 The distribution of (above left) Group XXV, (above right) Group XXVI, and (below) Group XXVII products



Map 21 The distribution of (above) Group XXVIII, and (below) Group XXIX products



Map 22 The distribution of (above) Group XXX, and (below) Group XXXI products



Map 23 The distribution of (above) Group XXXII, (middle) Group XXXIII, and (below) Group XXXIV products

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Numbers such as 62..64 denote text interrupted by other matter.

An asterisk after a page number points to archaeological context; used only for implements.

References to pottery are all under that heading.

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