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ASSESSMENT OF THE ANIMAL BONE WORK FOR WROXETER ROMAN CITY, SHROPSHIRE: FROM SITES WROXETER BARKER (AML SITE 49) AND WROXETER WEBSTER (AML SITE 340).

Beverley Meddens

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Summary

This report was written to reassess the project on the faunal remains from AML site 340, and AML site 49. The report discusses the material, the previous work and the archaeology of the two excavations with a view to selecting animal bone assemblages which might be suitable for study.

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CHAPTER 1

Introduction

Peter White in his introductory note for "Work in Progress 1975" outlined a number of worthy aims for the work to be carried out on the site of Wroxeter Roman City (White et al, 1975); to build up our knowledge of the community which lived and worked at Wroxeter and to place that community within Roman Britain, to develop new ideas and techniques and provide material to benefit research and excavations elsewhere, and properly to consolidate and fully interpret the remains so that they continue in the future to be a useful document for the study of the past.

The animal bones form only part of those remains, and they form a very large assemblage of material. The original strategy for the work on the animal bones from Wroxeter sites 49 and 340, was to make a complete archive of all the material using the recording system at the Ancient Monuments Laboratory. The next step was to write a report on the material when information relating to the phasing, dating, and archaeology was made available. This strategy was taken up in order to anticipate the completion of other post-excavation work, so that the animal bone analysis could be completed in time to fit in with the publication programme. The original estimates on how long the work would take were based on the quantity of material that was known to exist at that time, however more material was located and these estimates soon became obsolete.

In April 1984, work was started in the Ancient Monuments Laboratory on recording the animal bones from Wroxeter Barker. 3.3 man years have been spent on recording, curating, and developing the work on the animal bones from Wroxeter, (for details see chapter 2, all figures are those to the end of January 1987), over 160,000 bones have been recorded from 358 boxes, out of a total of 1574 boxes from both sites 49 and 340.

The original strategy was founded on the belief that a complete and useful archive could and should be made of all the animal bone retrieved from the excavations. This policy of recording of animal bone whether or not they derive from useful archaeological contexts, and irrespective of collection tecniques, has run into problems. Independently set publication timetables have created limitations on the time available for the work to be carried out, (not to mention monetary considerations). This situation has highlighted a number of considerations. It is probable that future researchers will want access to the bones, so the best archive of the animal bones is probably the bones themselves, curated and stored carefully but not listed bone by bone. The level of curation is an important factor for it will be necessary for future researchers to be able to assess whether or not there is material in any particular assemblage to meet their research requirements. The archive which has been produced to date for a portion of the Wroxeter animal bone is perhaps too detailed (and time consuming)for this purpose. Rather than trying to anticipate the requirements of all future analyses, perhaps any detailed recording should reflect the needs of the present analysis. In an ideal world, this would mean starting the project with all the necessary information about the nature of the archaeological contexts. This brings this discussion full circle, for Wroxeter the problem is that the project is so large that to wait for all

the other post-excavation work to be completed would mean that the animal bone work could not be fitted into the publication timetable, and also valuable feed-back from the animal bone work would be lost to the other workers. Some way of staggering the work could be a solution.

This assessment was requested in order to suggest options for strategies that could be followed for future work. There is much more material than originally thought, and it now seems unlikely that the original strategy could be followed within the publication timetable. Therefore different approaches to the material have to be found.

The following chapters detail: the material, previous work which has been done on the material, an examination of the various options available for further work, suggestions for some of the questions that the animal bones from these sites could answer, and a discussion of the archaeology of the sites with a view to selecting animal bone assemblages that would be suitable to study.

The following report will suggest that the animal bones from Wroxeter Barker (site 49) should be approached with a view to exploring the spatial differences and function of the various features on the site, while the animal bones from Wroxeter Webster (site 340) should be approached with a view to exploring the changes through time in the exploitation and marketing of animal produce at the site of the market at Wroxeter. If well dated assemblages of bone can be selected from both sites there is the potential to a have sequence right through the occupation of the city, giving an opportunity to contribute to the understanding of the economy in Roman Britain.

Given that finite resources are available for the completion of a report on the animal bone, the following recommendations are made:-

No further work should be carried out on the material from site 49 until an effective selection of contexts, on which effort should be concentrated, can be made. The information needed to make this selection iis not anticipated to be available until April 1988.

Effort should be concentrated on the pit assemblages from the south corridor and western portico of site 340. As more information on dating and phasing becomes available selections from the early civilian, Hadrianic construction, and later phases could be made.

The original naming of the excavations carried out by Philip Barker and Graham Webster is now inappropriate and has been altered to be consistent with the names of the excavators rather than the area of the excavations. The alterations are as follows:-

Wroxeter Palaestra (site 49) altered to Wroxeter Barker (site 49).
Wroxeter Basilica (site 340) altered to Wroxeter Webster (site 340).

CHAPTER 2

The Situation So Far

There have been eight different excavations at Wroxeter. They are :-
1) Wroxeter Barker Site 49 - Excavator Philip Barker
2) Wroxeter Webster Site 340 - Excavator Graham Webster
3) Wroxeter Museum Site 502 - Excavator J.P. Bushe-Fox
4) Wroxeter Eastern Defences Site 552 - Excavator Stephen Johnson
5) Wroxeter Atkinson Site 812 - Excavator Atkinson
6) Wroxeter Kenyon Site 822 - Excavator Kathleen Kenyon
7) Wroxeter Brown Site 1011 - Excavator Peter Brown
8) Wroxeter Park Site 1878 - Excavator unknown (probably Site 49)

The animal bones from two of these excavations form the basis of this report, these are Wroxeter Barker and Wroxeter Webster, sites 49 and 340 respectively.

Wroxeter Barker Site 49
There are 656 boxes of animal bone from Wroxeter Barker, of these 275 (to date February 1st 1987) have been recorded using the Ancient Monuments Laboratory animal bone recording system. This leaves 381 boxes which have not been looked at. The breakdown of areas from which these boxes derive is given below.

Area	Number Recorded	Number Not Recorded	Total
A	10	0	10
B	30	0	30
C	75	1	76
D	76	355	431
E	72	21	93
Various	12	4	16
TOTAL	275	381	656

A complete inventory of all the boxes of animal bones from both excavations has been made and is available in the site file, (computer file WROXBOX.LIS). For the recorded boxes of animal bone from Site 49, a separate inventory of their contents is available in a file called WROX49.BOX.

The recorded material amounts to about 150,000 bone fragments for which no analysis has yet been attempted. Species lists are available for all recorded bones (Appendix C). The data is stored on both floppy disk, (unsuitable for long term storage), magnetic tape, and hard disk. Details of the files and where they are stored is given in Appendix A, which also includes information about other Wroxeter work files that exist.

Some work was done on devising programs to plot the data from site 49, to take advantage of the grid system of recording that is in use on this site. The finds from site 49 were collected from individual grids within a context, and the plotting programs plot the number of bones recovered from within each grid. Specifications can be made, for example, one could plot only sheep tibia, or cattle bones only, or bones from particular contexts. The programs were written by Alan Sommerfield using BASIC. Copies of these programs are available on the tapes and discs listed in Appendix A, the names of the files are STANDARD.BAS, SITE.BAS, SITEMAP.BAS, MASTER.BAS, DOCUMENT.BAS

Wroxeter Webster Site 340

There are 918 boxes of animal bone from the excavations carried out by Graham Webster, excluding the material that has been worked on by Barbara Noddle, (this also applies to Site 49). 83 boxes, mostly early civil, have been recorded by Dr. F. Meddens. This data is stored on floppy disk, and details of the files are given in Appendix A. A full inventory of all the boxes from site 340 and their contents is available from the site file (computer file WROXBOX.LIS). There is also a cross-reference of the contexts from which bone was recovered and in which boxes they can be located, file WBCONTEX.LIS.

There are 176 boxes of animal bone from both site 49 and 340 which have been worked on by Barbara Noddle, they are also stored at Ruislip. What other material she possesses in Cardiff has not yet been established. It is possible that 9 boxes of military material were sent to her in 1985/86. They have not been located, nor does there seem to be any record of them having been transported to Cardiff. Miss Noddle has also written two reports on her work on the animal bones from Wroxeter, A.M.L. Lab. report numbers 3068 and 3690.

Other Sites

To complete the record there are 39 boxes of material on record in the laboratory records. These are included in the inventory and come from sites 552,502,and 1878. They have not been considered in any more detail.

CHAPTER 3

Options For The Continuation Of The Wroxeter Animal Bones

A variety of possible approaches are available for the continuation of the work on the animal bones from Wroxeter sites 49 and 340. These are not all equally desirable or feasible. It is proposed to outline the various approaches, and then to view these with repect to the data, time, and resources that can be made available to the project.

(1) The bones and their storage and curation :-
Present situation - a complete inventory of all boxes and their contents has been made, albeit with variable detail, for site 49 for example only the area and year of excavation is listed box, whereas for site 340 contexts are listed. Detailed information about the contexts within each box for site 49 is only available where the material has been recorded, this information is available from file WROX49.BOX and is available in the site file.

The options - a more detailed curation could be undertaken, with some assessment of the quantity of bone from all contexts. This could be achieved by weighing the bones or assessing the volume, e.g. third of a box and so on. The collection could be re-packaged for more long-term storage, thereby reuducing the total number of boxes to be stored and thus the storage costs. The purpose for this work would be to make the assemblage more accessible to future researchers, and provide for its long-term maintainence.

Comment - The only material that is in need of immediate reboxing are boxes A.M.L. no. 864313 - 864401, and this is recommended. It has become clear since more work has been done on the contextual nature of site 340, that a reorganisation of the material into archaeologically relevant groups would be desirable, especially as an aid to judging which contexts should be studied. This would inevitably mean that a new inventory would have to be made. This could be done when and where required (see below) and the old inventory adjusted to the reorganisation. Time spent reorganising at the outset could reduce the work load later on.

(2) The data recorded to date :-
The present situation - all the data recorded to date is in the form of magnetic data (see above). No paper archives have been printed and no analysis of the data has been attempted.

The options - all or part of the data recorded to date could be presented as an archive, studied, and reported on.

Comment - It is probably neither desirable nor feasible to report on all the recorded material. It is suggested that a selection should be made of the "archaeologically significant" contexts, and that these should be reported on. (This applies mostly to site 49 and for this site the quantity of data that might be regarded as "archaeologically significant" has not yet been established, for the discussion of this see chapter 4, I.The Archaeology). The remaining data, not reported on, should be made available as an archive for any researcher who might want to use it. The selection referred to above will be based on the process described below (3).

(3) The remaining animal bones not yet recorded :-
The present situation - there is an inventory of this material see above, chapter 1.

The options - all or part of this material could be recorded, analysed and reported on.

The same comment applies here as for (2). It is proposed to address the problem of establishing the quantity of "archaeologically significant" material here. The process suggested might be as follows (B. Levitan, pers comm):-
a)Draw up a list of questions both archaeological and zoological relating to the site of Wroxeter as a whole and its relationship to the province.
b)Draw up a list of questions both archaeological and zoological relating to the archaeology of the site.
c)Establish what are the major features, structures, and phases etc. and the contexts that make them up.
d)Select which of these "archaeologically significant" contexts have bone assemblages that would be desirable to work on, with respects to the questions outlined in a) and b).

To summarise the above discussion:-

Boxes A.M.L. no. 864313-864401 be reboxed immediately, and that some of the material from site 340 be reorganised and recurated, (for details see below chapter 5).

That, having established what questions the animal bones can answer, a selection be made of the most suitable contexts for those purposes. This last point is discussed in detail in chapter 4.

Finally that any records and material that are not finally reported on within the scope of the present limitations be stored in a form that is easily accessible to other students.

CHAPTER 4

I. The Archaeology

The General History Of Site

The following is a summary taKen from Barker (1975,1979,1980,1985) and Webster (G. Webster and B. Stanley 1961, G. Webster 1975,1980, P. White et al 1975). The site (Viroconium) has long been known to have been of some importance in the period of the conquest and pacification of Britain in the 1st century A.D.. Legionnary tombstones found in the 18th century in the area of the Roman cemetery indicated that the XIV Legio was stationed there, and built the legionnary fortress. About 90 A.D. it was decided to hand over some old military bases, Wroxeter included, to civilian development. Gloucester and Lincoln for example became *coloniae* i.e. chartered settlements for retired veterans, and Wroxeter and Exeter became capitals for the Cornovii and Dumnonii. The army demolition units dismantled the buildings and filled in the ditches, reduced the ramparts, and buried rubbish.

A 45 acre levelled site was handed over to the civilians to build the first city on. The alignment of the buildings remained the same but the street plan was changed, with the forum occupying a central insula. The public complex at Wroxeter was completed at a second attempt and the *forum* was dedicated by the Cornovii to Hadrian in 130 A.D.. An earlier bath building started at the end of the 1st century but never completed, underlies the *forum*.

The *forum* and buildings to the south were damaged by fire 160-170 A.D., and the monumental front collapsed into the street in the late 3rd century. It was never rebuilt, but adapted to other purposes. The baths insula also has a complex history. The *frigidarium* was later used as a granary, while the south corridor of the *macellum*, originally a corridor to the baths became a rubbish dump presumably for the rubbish created by the market activities.

The *basilica* and large public buildings fell out of use about 300 A.D., most of the buildings were demolished or abandoned pointing to a decline in the life of the city, with bones and pottery strewn amongst the rubble and fires lit on the pebble floors. Sections of earlier excavations reveal in some cases as many a 7 pebble floors overlying the "original" herring-bone floor of the *basilica*. However later redevelopment of the *basilica* area with a planned complex of timber buildings, some very large and classical, suggest wealth and motivation. A very large timber framed building with a porticoed facade, formed the central structure of the complex of buildings which may have incorporated some of the reused baths buildings. Within the eastern precinct were two large barn liKe buildings and beyond and outside the precinct area lay a series of "peasant" houses.

Outside the ramparts the tombstone of an Irish King implies the engagment of Irish mercenaries to help defend Wroxeter in the later 5th century. Eventually the whole city was dismantled and abandoned and the people presumably moved to a more defensible site. Robbing of the foundations tooK place in later centuries, but the main reuse of the masonary is in Saxon churches rather than Medieval.

The Major Phases, Structures, and Features etc. from Site 49

Site 49 was excavated in 6 areas, numbered A-D. Contexts were numbered with individual numbers following a system called "The Wroxeter Code". The areas were originally thought to be discrete units bounded by walls, but inevitably they do connect and cannot really be isolated from each other. Roger White is at present working on the matrix for the whole excavation and is not expected to complete his work until the end of March 1988.

Although complete context lists are available giving descriptions of the contexts, there is very little phasing and dating information. For the Ancient Monuments Laboratory to turn the contexts lists into comprehensible phases, structures and features would be counter-productive as this is precisely what Roger White is doing now. Many of the main structures and features have been described by Philip Barker (eg Barker 1979, 1985), but without the detailed matrix it would be impossible to successfully isolate which would be the most suitable bone assemblages to study.

The main feature of this whole area is that it is a unique sample of the last stages of the occupation of the city. The main problem is interpreting the function of the various timber buildings, the remains of which are the rubble platforms on which they were built. In other areas pits, and gulley systems seem to imply "industrial" activity, but again the problem for interpretation is one of function.

As described above, a large proportion of the material from site 49 is already on record, the problem is how to proceed with writing a report, and how much of site D should be recorded. At this stage detailed information is necessary in order to select the most suitable bone assemblages for analysis and reporting, and this information will not be available until April 1988. It would seem therefore that no more work should take place on the animal bones from site 49 for at least a year when, with more information available, sites A,B,C, and E can be analysed, and an effective selection of which extra material for recording can be made from site D.

Unless requested, no detailed discussion of the material from site 49 will be made here. It is quite clear that there is great potential for some very interesting assemblages at site 49, and it is the recommendation of this report that a high level of contact be maintained with the other people working on the archaeology of the site throughout the following year. When work does resume on the animal bones the direction of the work to be undertaken will then have already been established.

The Major Phases, Structures, and Features etc. from Site 340

Site 340 was excavated in areas which were given numbers from 1-98. Each individual context, layer or feature, was also given a number. The context numbers are only unique within an area. The area numbers were written in circles and will appear in brackets, (80), in this report. The context numbers are not bracketed. Work on the matrix and phasing for the whole of the Wroxeter Webster excavations is in progress. This work has been completed for the Piscina Area and the Eastern Fringe. Unfortunately very little of the material which remains to be studied comes from these areas. At the moment the projected completion of all the matrices and the phasing of the contexts is September 1987.

The main areas of interest in site 340 are summarised below, but for a detailed review of the archaeology and the material from specific features see Appendix A:-

The military, which has been reported on by Barbara Noddle.

The interface between the military and the early civil phase.

The early civilian phase.

The Hadrianic construction.

The Hadrianic "topping-up" layers. Interpreted as contemporary rubbish used in the Hadrianic construction phase.

The market rubbish, characterised by "organic" layers, often described as late Roman loam layers.

The series of rubbish pits in the south corridor and west portico, and their associated buildings.

Sequence of Phases at Wroxeter Webster Site 340

PHASE	AREA	DATE
Military		
- Legionary Fortress	Piscina Area	55-90 A.D.
- Ramparts and Ditch	(90)(96)(97)	
Military Fortress Dismantled -		85-90 A.D.
Early Civil -	(85)(87)(90) (91)(95)(98)	90-125 A.D.
Hadrianic Construction		
- Levelled Off	(98)	125-130 A.D
- Topped Up with Domestic Rubbish	(83)	125 A.D.+
Hadrianic Floor Levels -		
Forum Fell Down -		300 A.D.
Reconstruction of Macellum		
- of Herring Bone Floor	(83)	300 A.D.
- Late Market Deposit	(83)	
Thick Organic Layer - West Portico	(90)(96)(97)	4th cent.
- Very Late Levels and Pits	(80)(90)(97)(98)	
Later Robbing		

II. The Questions

Archaeological And Zoological Questions Arising From Wroxeter

Recent work has posed questions of the grander scale about the economy of Roman Britain (Maltby 1979,1984 ; Millett 1982). Some of these questions might be tackled by designing studies for animal bone assemblages which address these problems directly. The general analyses of the bones such as: species abundance, ages at death, pathology, butchery, fragmentation patterns, and anatomical representation; should be used to answer specific questions about the archaeology, economy, and husbandry of the site, as well as or instead of being just a method of presenting data. The following questions are by no means meant to be an exhaustive list, but a selection of the problems that might have a bearing on the animal bones from Wroxeter Roman City, they are almost entirely taken from the discussion in the cited papers above:-

a) What were the organisations and mechanisms involved in the distribution of animal produce?
b) Can we unravel exchanges of meat, hide, glue, and other commodities such as wool, milk, and cheese?
c) Demands by non-producers could produce assemblages biased by sex, age, and type. Can we compare "consumer" and "producer" settlements to establish different patterns of exploitation?
d) Are there differences between the larger and smaller towns that would indicate market systems acting in the area?
e) Do the towns act as "markets" and who are they servicing? How would we set out to prove this, and what types of bone assemblages might be expected for different situations?
f) Can changes in breeding patterns, and husbandry practices be observed?
g) What was the arable exploitation of the area? Can we integrate this information with the animal studies? What is the relative importance of plant versus animal produce?
h) Does the archaeological information enhance or contradict any existing contemporary documentary evidence?

Many of these questions cannot be answered by the assemblages at Wroxeter alone, but only by comparison with other material from the area, and within the whole of the Roman Province. It might also be true to say that these questions cannot be tackled until the precise nature of the assemblages from Wroxeter have been established. However they can be born in mind when considering which assemblages from Wroxeter should be examined in detail.

Questions arising from the Archaeology

These questions should be directed more at the actual archaeology of the sites to be studied, and the following list, as above, is not meant to be exhaustive, but again can be taken into consideration when examining in detail the material available for study:

a) Standard large scale butchery by the military has already been observed (M. Maltby 1979), but was the produce sold in open market or distributed solely by the military?
b) Was slaughter and butchery organised centrally or given to independent merchants?
c) Do later slaughter and butchery practices show any

differences?
d) Are there different levels of butchery taking place at different areas in the site and does this imply different distribution methods and therefore different economic and marketing systems?
e) Do the bone assemblages represent butchery waste, kitchen refuse, carcass trimmings, meal waste, ritual deposits, industrial waste, or slow steady accumulations from various sources?
f) Can changes in preference through time be observed by monitoring changes in quality, size, age, type of stock, cuts of meat, and proportion of wild animals?
g) Are there any archaeological deposits with the potential for providing environmental evidence, such as buried soil horizons or pit traps for small mammals. Is there any potential for complementary environmental evidence from other sources eg pollen, seeds, insects, and molluscs.
h) What is the relationship between wealth and status on diet, can this be explored?

An alternative approach might be to view these questions from an economic versus environmental stand point. This would mean that the basic division would be between i) the husbandry, managment and economic use of domestic and wild animals by man and ii) the reconstruction of the environment and zoological evidence made possible by the information provided by archaeological investigation. There is no absolute division and there will always be an overlap in the objectives no matter what approach is taken.

Wroxeter Barker Site 49

The majority of the archaeology from site 49 relates to the later use of the city site, and is dated with great reservation to 350-500 A.D.. Barker (Barker 1973, 11) writes "the territory of the Cornovii became at an unknown date the kingdom of Powys. Was Viroconium the first capital of Powys, with a ruler attempting to restore some of the grandeur of the earlier city but for reasons yet to be considered, building in timber?" So, do the animal bones reflect any differences between the later phases and the earlier "pure" Roman phases? Barker (Barker 1980, 18) writes later "this drastic reorganizatiion of the city-centre needed wealth, strong motivation, and a high degree of organization...It has all the hallmarks of Roman design, translated into timber,". What in fact was the function of the timber buildings in the area? Were they the latest development of "a complex of religious and public buildings," or were they "the private demesne of a great man"?

For a variety of reasons it would be a useful piece of research to analyse different dumps in the build-up of the platforms for the later timber buildings. These platforms pose many problems, and even though the precise location of the primary material is not known some light might be shed on activities going on in other parts of the city. For example in one of the dumps in the platform for Building X numerous jet beads in various stages of production were found, suggesting that the raw material rather than the finished object was traded to Wroxeter, an important economic fact.

In many areas of the site function seems to be the major concern, and suitable assemblages of bone could be examined to find this

out. One such example would be the depressions in the floors of the basilica caused by subsidence. These were gradually filled up with accumulated debris and the bones from these deposits could highlight the function of this area after basilica fell out of use.

Wroxeter Webster Site 340

The military phase is an obvious area of interest and the material from this phase has been worked on by Barbara Noddle, and remains outside the scope of this assessment. However Graham Webster has suggested that it might be possible to establish differences between the military and civilian bone assemblages, and could this lead to being able to aid some of the stratigraphic problems of the military/civilian interface? It is reasonable to suppose that there could be a difference between the two types of assemblages, especially if it is assumed that the military purchases were made through a dealer who was commissioned to acquisition specific stocks for the barracks whereas the civilian supply would rely on individual purchases through a market system (A. King 1984). However it is probably not within the resources of the project to study in detail the interface layers. Even supposing a clear cut difference is established between the military and the civilian bone, it is likely that contexts that are questionable stratigraphically would also have mixed contents, and that the results would not be conclusive. Nonetheless it remains an interesting research proposal.

There is a large collection of rubbish pits from the later period and these probably form a great opportunity for detailed examination, they are interpreted as being the rubbish from the market stalls and could preserve evidence about the market system and economy functioning at the site through a period of 200 years. The possiblity of farming within the town defences as demonstrated by Maltby (Maltby, 1979) cannot be ruled out as Wroxeter is one of the largest cities in Roman Britain, and comparisons with other Roman cities such as Exeter, and Cirencester must surely be explored.

The main focus of this site then is towards changes of animal exploitation through time. Work on the two sites (49 and 340) can be integrated, with site 49 providing the final phase in the sequence of the occupation of Wroxeter. In contrast the two excavations provide assemblages of entirely different nature, there is some overlap in the time sequence and therefore comparison of the assemblages for functional differences should be extremely interesting.

CHAPTER 5

I. Discussion

Wroxeter Barker Site 49

There is a great deal of potential in the animal bone from this site. With regard to the area of the city covered by the excavation, the analysis of the animal bones might be able to answer many problems about the function and status of the buildings in the 4th and 5th centuries A.D.. They also represent the end of the sequence, the beginning of which is the military in site 340, and provide a valuable comparison with the earlier material site 340.

However until more detailed information is available about the archaeology of the site, no progress can be made with the analysis and writing-up of sites A,B,C, and E. As discussed above, the material from these areas is now fully recorded and the data stored on magnetic media. The detailed information required to select contexts most suitable for detailed analysis and reporting will not be available until March 1988.

The situation for site D is rather different. There are two possiblties here - either recording can continue in the same way as before, or a selection can be made of the assemblages which would fulfill our requirements. In view of the fact that the information necessary for this selection will not be available until March 1988 it seems prudent also to postpone further recording on site D.

Efforts should be made to co-ordinate with other environmental archaeology work that is being undertaken on both sites.

Wroxeter Webster Site 340

Summary of the Material

Military and *Piscina*	-	31 boxes
Early Civil	-	53 boxes
Main Hadrianic Construction	-	156 boxes
South Corridor Pits	-	134 boxes
West Colonnade Pits	-	97 boxes
North Corridor Pit	-	7 boxes
Late Market Deposit	-	80 boxes
Roof Collapse	-	8 boxes
Road	-	1 box
Macellum Robber Trench	-	43 boxes
Other	-	308 boxes
Total	-	918 boxes

The Military and Piscina

Most of the military bone and the fill of the *piscina* have already been reported on by Barbara Noddle. There are about 29 boxes of military, and 2 boxes of "piscina fill" bone. No contextual information accompanies this material. These 31 boxes probably constitute a very small proportion of the material

already examined by Miss Noddle. The recommendation is that the military bone and the piscina fill bone be repackaged and made available to Miss Noddle if she wishes to combine it with the record she has made already.

Early Civilian

There are an estimated 53 boxes of "early civil" bones, most of which have been recorded already. Repackaging this collection would be useful at first, in order to isolate the unrecorded bone. This assemblage has great importance because it forms the only material for this period from the two excavations at Wroxeter under consideration. Therefore, despite the fact that there is little or no contextual information for this material yet, it is recommended that all the material is considered for detailed reporting. It has the potential for answering questions about the change, or lack of it in the market economy of 2nd century Roman Britain, or at least in observing the nature of the civilian town which was set up after the legionary fortress was dismantled. Were the channels created by the army reused and kept open by this foundling town, or did they create a new market with radically different demands?

Main Hadrianic Construction

There are an estimated 156 boxes from this phase, for which no contextual information is available yet. This assemblage poses a number of problems for assessment at this stage. It is quite probable that more contexts will be included or excluded from this phase as more work is done on the pottery and matrix, but because the nature of the contexts involved is not known it is impossible to estimate how much of this material would be suitable for detailed study. However, it forms a unique collection for this period from the excavations under study, as with the "Early Civil" material, and should be approached as potentially informative. The radical change in the nature of the site from the first civilian town to the majestic buildings of the city centre, could be reflected in the exploitation of animals, whether or not this is also represented by the bone assemblages present at Wroxeter remains to seen when the matrix etc. is finished.

South Corridor Pits, West Colonnade Pits,and the North Corridor Pit

At the moment 238 boxes of bone can be assigned to this series of pits. They form just over a quarter of the complete collection. The bones are interpreted by the excavator as rubbish created by the activities in the market, and the booths that were set up in the west colonnade just outside the market. It would seem that this material dates from the 2nd century to the 4th century A.D., and if a series of well dated pits can be isolated from the group, they could contain some excellent data. However, it is clear that the finite resources available require that a limited quantity of this material be worked on. Therefore, it would be in the best interest to select the best pits for study. The recommendation is that the final selection be made as each area's matrix is completed.

The Late Market Deposit

80 boxes of bone have so far been assigned to the "late market deposit", otherwise known as "late Roman loam layers", or "the thick organic deposit". More information is needed in order to properly assess these deposits. There could be more contexts added to "the late market deposit" once the work by Colin Wallace

is complete, and it is not completely clear what the bones from these deposits represent. However, great enthusiasm has been shown by Graham Webster about them, therefore it is recommended that this whole series of layers be reconsidered when more information is available, as they would appear to have some potential.

Macellum Robber Trench, Road and Roof Collapse
Material from the road (80)40, might be worth a quick look just to see in fact whether or not the "pig skulls" on the road are worth a more detailed analysis. It would appear however that bone from the roof collapse might not be suitable for detailed analysis, unless more detailed archaeological suggests otherwise. Therefore, these 9 boxes could probably be treated as low priority. Similarly the 43 boxes of bone from the macellum drain robber trench, can also be treated as low priority, because it is not really clear from where the bones came and thus what they represent.

The remaining 308 boxes must be regarded inevitably as low priority at this point because of the paucity of information about them. In the light of more information as other work progresses, material suitable for study might be unearthed; at this stage however no comment can be made regarding the possiblities this material could offer. Of these 308 boxes, 7 have not been located, 5 have absolutely no identification at all, and one box contains pottery and metal artifacts recovered from bone material that has been recorded, and presumably should be returned to Graham Webster.

II. Conclusion And Recommendation

The main emphasis for the work to be done on site 49 will be to attempt establish function of the various areas of the site. The the assemblage selected for study, if properly dated could represent the final phases of occupaton at Wroxeter and therefore provide an important comparison with the earlier phases of occupation in site 340, and thus complete a sequence through the Roman period.

The military phase from site 340 has already been reported on by Barbara Noddle. The main emphasis for the work to be done on site 340 will be to select well dated assemblages form the early civil, Hadrianic, and post Hadrianic phases in order to observe changes in the exploitation of animals through time. The main assemblage presented for detailed study is the series of rubbish pits in the south corridor and the west portico. However once more contextual information is available it may be possible to select suitable material from the early civil and Hadrianic phases.

Wroxeter Barker Site 49
No further work should be carried out on the material until the matrices and phasing are complete, but contact should be maintained with all the people involved in the post excavation work throughout the following year.

Wroxeter Webster Site 340

Boxes AML nos.864313 - 864401 should be reboxed.

The military material should be reorganised and repackaged to be made available to Miss Noddle should she want them.

The material from the piscina area, the eastern fringe, the north and east corridors, and the macellum need not be considered for detailed study, with the possible exception of the material from the north corridor pit F87, the early civil, and the Hadrianic construction phases from the macellum. However more contextual information about these assemblages is needed before they could be considered for analysis.

The early civil material should be reorganised and repackaged and the material not yet recorded isolated and recorded.

Once phasing and matrices are completed the material from the early civil phases and the Hadrianic construction phases should be reassessed, and suitable contexts selected for study.

The pits from the south corridor and the west portico, detailed in Appendix A, are a group features and potentially closely dateable. They provide the best potential for answering some of the questions of the site. They could constitute too large a group to analyse completely, so when the matrices are completed some of the best pits should be selected for detailed analysis.

The other main deposit of interest is the "market deposit", however more contextual information is needed about these deposits before they can really be considered for study.

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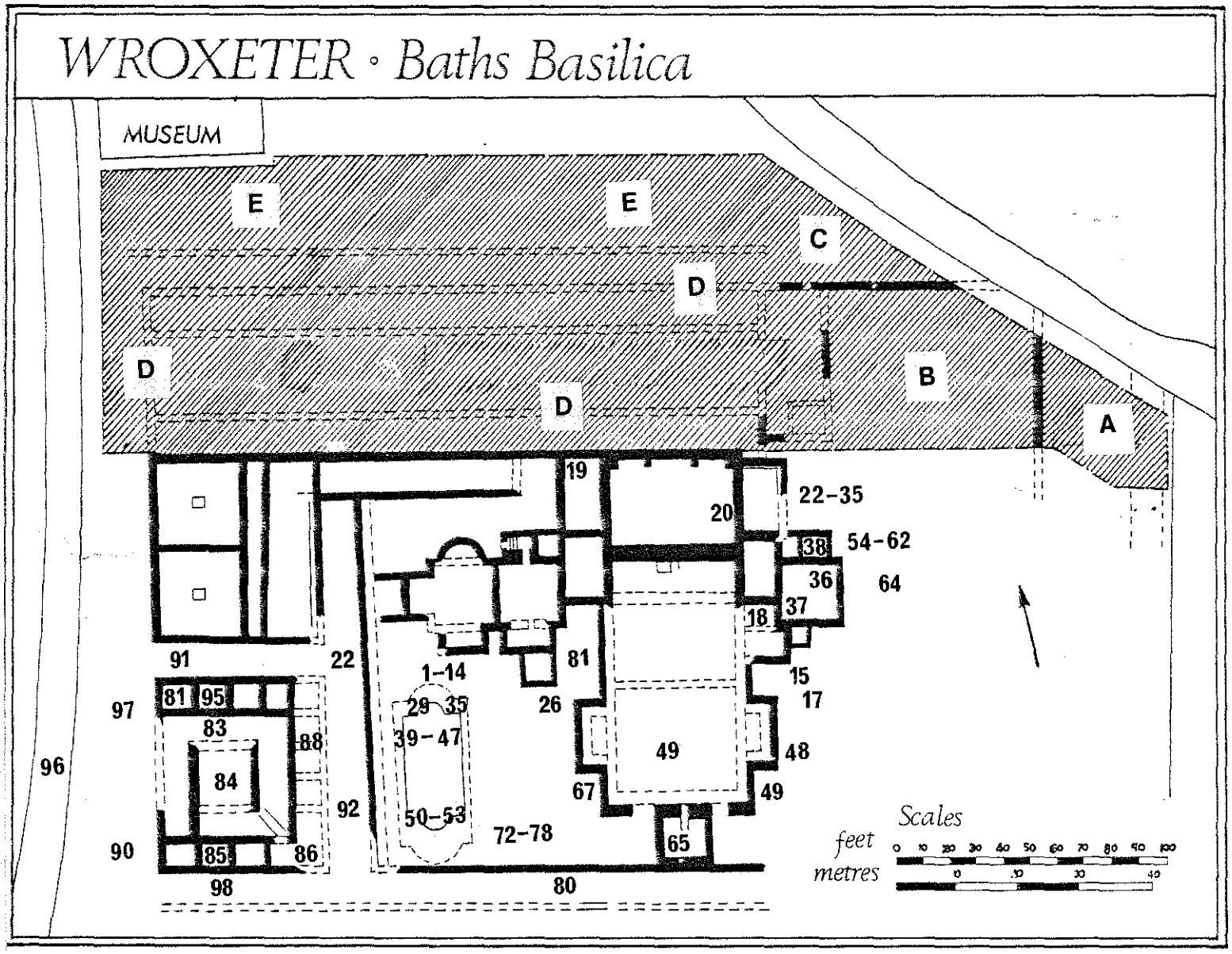

Figure 1

88 AREAS OF SITE 340

X AREAS OF SITE 49

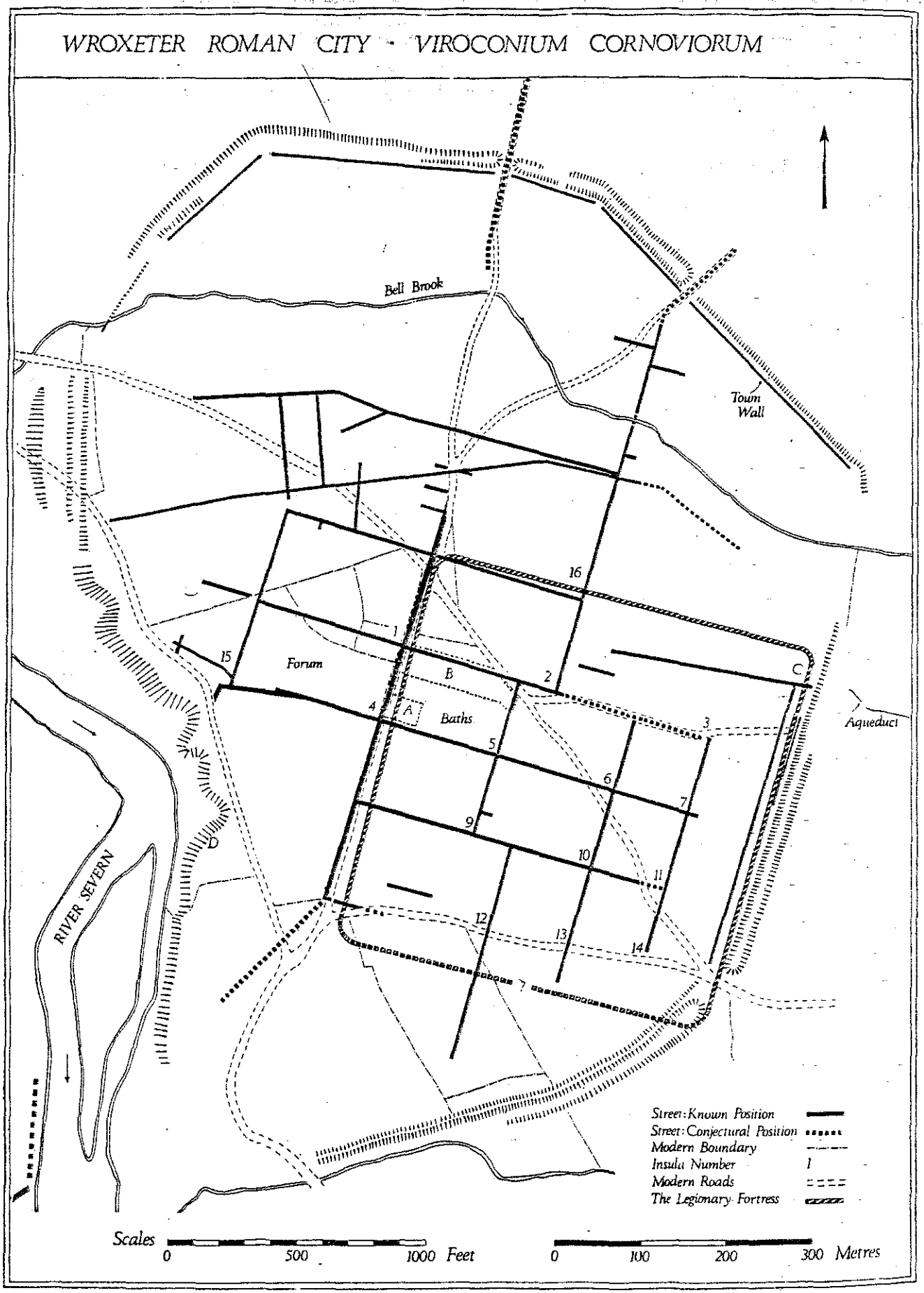

Fig. 2 *Wroxeter: plan of the city, showing the probable alignments of the defences of the legionary fortress (based on Webster 1980a, fig 2; Johnson 1975). A is the site of the* macellum, *B the site of the baths-basilica*

APPENDIX A

Details of the Recorded Data and where it is Stored

The naming of the two excavations is now inappropriate and so the following alterations have been made:- Wroxeter Palaestra site 49 is altered to Wroxeter Barker site 49, and Wroxeter Basilica site 340 is altered to Wroxeter Webster site 340. In some cases the old names will still appear.

The data have been recorded using the Ancient Monuments Computer Based Osteometry Data Capture User Manual (1) (AML report nos.3342 2333), and the computer equipment provided. In the case of site 49, this was a Cromemco Z-2HCS using CDOS. In the case of site 340, this was a Comart Communicator using C/PM. The data were originally recorded into data files, which would represent a days work, or part thereof. These files have been numbered consecutively,and in the case of the work done by B.Meddens have been joined into site data files and sorted according to species, anatomy, and context. All files were copied onto floppy discs, these are not interchangeable between the tow systems. Most of the data have been copied onto magnetic tape as well, using TIP (Tape Interchage Package Ver.-4.xx).

Wroxeter Barker (Palaestra) Site 49
B.Meddens - files numbered from wroxp1.dat - wroxp756.dat, excluding files 222 and 505, which do not exist. All the individual files are stored on floppy disc and magnetic tape, listed below. These 754 files have been joined and sorted as follows. All the individual files are also backed up on 6 tapes, the directories of which are also available. Intermediate working files were also backed up on tape, but only those files listed below should be worked with as they are the edited versions and therefore much better data.

wroxnew1.jon	wroxp1-149.dat (excl.222)
wroxnew2.jon	wroxp150-299.dat
wroxnew3.jon	wroxp300-461.dat (excl.377-384)
wroxnew4.jon	wroxp462-616.dat (incl.377-384,excl.505 and 522)
wroxnew5.jon	wroxp617-718.dat (excl.703)
wroxnew6.jon	wroxp719-756.dat (incl.522 and 703)

(All stored on Wroxeter animal bone Tapes 2 and 4)

The files have been sorted into site files. There have been a number of intermediary stages in the processing of this data, but the complete site files are as follows. The letters a,b,c,d, and e in these file names refer to the site the bones come from.

wroxaa2.sor	3,948 bones	on disk and tape 5	(183K)
wroxbb3.sor	21,077 bones	on tape 5	(800K)
wroxcc2.sor	34,734 bones	on tape 5	(1313K)
wroxdd1.sor	5,450 bones	on disk and tape 5	(205K)
wroxee2.sor	30,629 bones	on tape 5	(982K)
wroxee2b.sor	27,496 bones	on tape 5	(900K)
TOTAL	123,334 bones		

P.Aldridge files are numbered from wroxp800.dat onwards. These are all from site D, and as above have been joined, and sorted. The files are stored on floppy disc, a species list of the bones recorded upto the date of this report is given in Appendix C.

wroxp1.jon wroxp800-880.dat
wroxp2.sor wroxp800-899.dat - upto end of March 1987

wroxp1.sor 25,996 bones on disc (760K)
wroxp2.sor 35,762 bones on comart hard disc (1012K)

Other files specifically relating to Wroxeter animal bones are:-

WROXBOX.LIS - A list of all the boxes and their AML numbers, their contents and whether or not they have been recorded, for both site 49 and 340. This list is available from the site files.

WROX49.BOX - An inventory of the contents of recorded boxes from site 49.

WROXWORK.BON - Is a list of all the worked bone found by B.Meddens whilst recording. Detailed notes have been made on these by hand and the bones themselves have been sent back to Dr. Kate Pretty to be incorportated into the finds system. The bones have also been recorded in the normal manner and it is hoped that eventually all the worked bone will be recorded as part of the animal bone archive of the site.

Wroxeter Webster (Basilica) Site 340
F.Meddens files numbered according to area and are stored on floppy discs in box 3, see below. The individual files are numbered as listed below. The first number is the site number or trench number, wb is for wroxeter basilica, and the last number is the file number. All files for the different trenches have been joined in to .jon files as with the Wroxeter Barker data. These files have then been sorted by species, anatomy, and context. Species lists for these .sor files are given in Appendix C.

wb80.jon 80wb1-2.dat
wb83.jon 83wb1.dat
wb86.jon 86wb1-4.dat
wb90.jon 90wb1-47, 49-54, 56-63.dat
wb91.jon 91wb1-9.dat
wb97.jon 97wb1-18.dat
wb98.jon 98wb1-41.dat

wb80.sor	67	bones	on disc
wb83.sor	60	bones	on disc
wb86.sor	221	bones	on disc
wb90.sor	8455	bones	on disc
wb91.sor	384	bones	on disc
wb97.sor	1437	bones	on disc
wb98.sor	2780	bones	on disc
TOTAL	13404	bones	

Other files relating directly to the Wroxeter Webster material are :-

WBCONTEX.LIS - An inventory of bone contexts for site 340, and in which boxes they can be located.

WROXBAS1.INF - The wroxeter basilica bone material impressions and recommendations by F.Meddens.

WROXBAS2.REC - Basically a list of the material recorded by F.Meddens, this has been incorporated and superceded by

WROXBOX.LIS. - As above.

FRANK.INF - The description of the use made of KBONE for Wroxeter Basilica site 340 by F.Meddens.

Floppy Disks and Tapes

Wroxeter Box 1 Wroxeter Palaestra Site 49

Floppy Discs - (two sided double density soft sectored 48 TPI)
1) Wroxeter Data files wroxp150-203.dat + wroxp206.dat
2) Wroxeter Data files wroxp204-229.dat - wroxp206.dat
3) Wroxeter Data files wroxp306-355.dat
4) Wroxeter Data files wroxp356-415.dat
5) Wroxeter Data files wroxp416-474.dat
6) Wroxeter Data files wroxp475-501.dat + wroxp539-580.dat
7) Wroxeter Data files wroxp581-661.dat - 612,613,620
8) Wroxeter Data files wroxp660-716.dat
9) Wroxeter Data files wroxp714-746.dat
10) Wroxeter Data files wroxp747-757.dat

Wroxeter Box 2 Wroxeter Palaestra Site 49

Floppy Discs -(1-5 two sided double density soft sectored 48 TPI)
(6-10 two sided double density 10 hard sectors 48 TPI)
1)Wroxeter Site A wroxaa1.sor wroxaa2.sor wroxacon.sor
2)Wroxeter Site D wroxdd1.sor wroxdcon.sor
3)Bone Programs
4)Bone Programs
5)CDOS rockbone.com and necessary data files
6)Wroxeter Data files wroxp800-876.dat
7)Wroxeter Data files wroxp870-880.dat
8)Wroxeter Data wroxp1.sor - wroxp800-880.dat joined and sorted
9)Wroxeter Data wroxp1.sor - as above
10)Wroxeter Data wroxp1.jon - wroxp800-880.dat joined data file

Wroxeter Box 3 Site 49 and Site 340

Floppy Discs - (two sided double density 10 hard sectors 48 TPI)
1)Wroxeter site 49 Data files wroxp502-537.dat + 403 - 505
2)Wroxeter Programs
3)Wroxeter site 340 - I disk 2
4)Wroxeter site 340 - I back up 3
5)Wroxeter site 340 - IIA
6)Wroxeter site 340 - IIB
7)Wroxeter site 340 - III
8)Wroxeter site 340 - site files sorted WB*.SOR
9)Wroxeter site 340 - site files joined WB*.JON

Wroxeter D

2 Discs - wroxp800-899.dat

APPENDIX B

Details of the Archaeology Wroxeter Webster Site 340

The Piscina Area

Areas (1)-(14),(26),(29)-(35),(39)-(47),(50),(51)-(53),(63) (66)-(67),(70),(72)-(78),(81).

This area was excavated in the 1950's and 1960's. Simplified, it is the area of the legionary barracks, with the later baths buildings built on top, after the legionary fortress was demolished. The end of the military occupation is shown by a definate horizon, with the "early civil" deposits sandwiched between the military and Hadrianic phases. The Hadrianic make-up for the construction of the baths, including the *piscina*, and a later "added bath-suite" in the post-Hadrianic period is followed by even later robbing.

The Eastern Fringe

Areas (15)-(17),(18),(22)-(25),(36)-(38),(48)-(49),(54)-(62) (64)-(65),(69)

This area is on the eastern edges of the baths and outside the eastern edge of the baths. This area contains the *praefurnium* dump.

The South Corridor

Area (80) is the east end of the south corridor, and area (98) is the west end of the south corridor, or sometimes called the "*macellum* south portico". Although they were discrete excavation areas there are reasons to consider these two areas together.

Area (80) - The basic sequence
Legionary Fortress
Military Destruction
Hadrianic Construction
Use as a Service Corridor for the Baths
Used for Rubbish Dumps in the Late Roman Period
Roof Collapse

The projected completion of the matrix for this area is September 1987. The features of interest in area (80) are:-

From the Hadrianic period onwards there is a series of gravel and pebbles surfaces in the south corridor cut through by later rubbish pits.

The later rubbish pits and latrines, some very large and filled almost exclusively with bone.

The final collapse of the roof of the corridor.

A deposit of pig skulls on the road surface in an extension of the trench to the south (80)40. (This context has been investigated and does not contain any pig skulls).

Area (98) - The basic sequence
Military Ramparts

Military Dismantling/Desruction
Early Civil
Hadrianic Construction
Later Reflooring in Macellum
Late Rubbish Pits (through flooring)
Later Roman Loam Layers

No matrix available yet, and incomplete phasing. Projected completion of these end of March/April 1987. Some of the more basic features in area (98) are:-

The bone pits from the west portico, suggested to be the rubbish from the "fast food manufacturers" in the market.

The gravel surfaces, the last of which is overlain by the "later Roman loam layers" referred to by G.Webster as the "late market deposits of thick organic material".

The pebble surfaces, which are one of the phases of reflooring through which the pits are cut.

This area is very much like area (80), except that there is a possibility of some phasing in the cutting of the pits, (some are sealed by gravel floors etc.). Nor does area (80) have any early civil, which in area (98) is represented by floors and beam-slots, making up a series of buildings which were not distinguished as seperate entities, but observed as a "homogeneous" destruction phase.

The West Colonade and Insula Street

Area (90) is the south end of the west colonade, and area (97) is at the north end. Area (96) is the area west of the colonade, stretching into the insula road and forum?. As with the south corridor these areas can be considered more or less as a group. The matrix and phasing for these areas is not complete and the projected completion date is September 1987. The same applies here as for the south corridor. The excavators in the 19th century put their spoil heap over these areas and therefore preserved the later layers in these areas,those layers which were cleared away over most of the macellum and its courtyard. Therefore these later layers in the west colonade are very important as they are the only representatives of this very late phase.

Area (90) and Area (97) - The basic sequence
Military Ramparts and Ditch
Military Dismantling of Defences and Filling in of the Ditches
Early Civilian Occupation
Hadrianic Construction
Macellum Rebuilding and Extension

The late activity in the market seems to have spread out onto the portico and into the street. Associated with this late activity are timber booths built along the west portico. These booths, presumably stalls for the market would have had rubbish bins (Webster pers.comm.), which were emptied into the numerous pits found dug in this area as well. These pits present an opportunity to study the precise nature of the late market stalls. Some of these were found in area (98), see above.

Points of particular interest in the area are:-

Area (90),(96),(97) - the market rubbish, represented by a thick organic layer on the west side of the west portico.

Area (90),(97) - the macellum rebuild extending over the forum, with booths erected against the market and the west portico, spilling out onto the street.

Area (90),(97) - the rubbish pits associated with the market booths.

The North and East Corridors

Area (91) is the north corridor and area (92) is the east corridor. The only reason for treating these areas together is that neither area contains much material. As with the macellum itself, a lot of disturbance from 19th century excavations means that much of the later material no longer remained. However these areas too seem to have been treated quite differently to the south and west corridors, in that there are not many of the great pits, infact there is only one pit, in the north corridor. The matrix has not yet been made up, and the phasing is incomplete, these are perhaps some of the least well studied areas at present.

The basic sequence
Military
Early Civil
Main Hadrianic Construction
Macellum Late Make-up

The Macellum

Areas (83),(84),(85),(86),(87),(88),(95)

Area (83) is the north, east, and south sides of the courtyard, and area (84) is the west side and central part of the courtyard of the macellum. The 19th century excavations cleared down to the floor of the macellum, and unlike areas (80) and (98) there are no early civilian deposits. Areas of interest are:-

Area (84) - complete skeleton

Hadrianic "topping-up"layer (also referred to as the "Hadrianic fill in the macellum"), interpreted to represent contemporary domestic rubbish of 125 A.D. and later, represented by contexts (83)50-52,104,111,113-115,117,121 (also now (83)532-537), and (84)41,46,48,49,51,52,54, 57,59,61; (48 and 52 below the herring bone floor, 52 also referred to as courtyard rebuild).

Reconstruction of the macellum with the herring bone tile floor, 300 A.D. represented by contexts - (83)111-121, 504, 506, 508, 511-516, 518-522, 526, 528-530. (Now (83)504, 506-508, 511-516, 518, 522-526, 528-530.)

Areas (83) and (84) - The basic sequence
Military
Hadrianic Make-up

Make-up for Reflooring circa 300 A.D.

Area (86) is the south-east corner room, and area (88) is the east range of rooms. The drain that ran north-south through the east range of rooms when the macellum was in use, effectively destroyed earlier deposits below, and later robbing of the drain, destroyed the Hadrianic deposits. All the material from these areas comes from the robber trench. There is no matrix available and no assessment of the quality of the assemblage can be put forward.

Areas (87) and (95) are the north range of rooms, area (85) is the south range of rooms. The final reflooring of theses rooms with the herring bone tiling circa 300 A.D., destroyed the original floors.

Areas (85),(87),and (95) - The basic sequence
Military
Early Civil
Hadrianic Make-up
Hadrianic Construction
Herring Bone Floor

Details of the Material from Wroxeter Webster Site 340

The Piscina Area

From areas (39) - 1 small find - military
(44) - 1 small find - military
(47) - 1 small find and 2 boxes of piscina fill
(50) - 1 small find - military
(67) - 1 small find - unstratified
(73) - 1 small find and part box - military
(78) - 1 box - topsoil and Hadrianic construction trench fill.
(81) - part box - Hadrianic construction trench fill

There is not a tremendous amount of material from these areas. From the information available about 24 boxes of the material returned by B.Noddle came from this area, although there are references to contexts in the laboratory reports for which there is no material now at Ruislip.

Recommendation:
The military bone and the piscina fill material should be considered in conjunction with B.Noddles' work. The remainder of the material is either unstratified, or is of so little quantity that at this juncture it is recommended that none of this material is considered for further work.

The Eastern Fringe

From areas (22) - 1 small find - no information
(49) - about 1 box and 1 small find - no information

Recommendation:
There is very little material from these areas, and

there is no information available about the contexts from which there is bone. The recommentdation is not to study this material

The South Corridor

Area (80)

Pits of no specific date yet
F633 pit (80)192 - 1 box bone - military
F644 pit (80)198 - no bone -
F654 pit (80)205 - 1 box bone - military
F660 pit (80)206 - no bone -
F661 slot (80)207 - no bone

This material is mostly military from the available records and bone from 3 of these contexts,(80)192,198,206, was studied by B.Noddle. It would seem sensible therefore that this material should not be studied at this point, but considered for inclusion with the military material.

Main Hadrianic Construction
No information is yet available for the nature of the contexts, but the following contexts are firmly dated to this period :-

(80)105,110,123,152,155-167,170,173,174,176,177,179,187,189
- about 4 boxes of bone (from 12 of the contexts)

As there is no information about the nature of the contexts no judgement can be made as to whether or not they would be suitable for study. However Jane Faires suggested that these contexts seem to have low levels of residual pottery.

The later Pits
F455 pit - (80)71,72,73,74,75 - post Hadrianic - 2+ boxes bone
F480 pit - (80)109 - post Hadrianic - no bone
F471 pit - (80)100,106 - post Hadrianic - 3+ boxes bone
F477 pit - (80)83,99,101,102,104,107,108 - 3+ boxes bone
F460 pit - (80)78,79,80,81,82,140 - 2+ boxes bone
F486 rubbish pit - (80)115,117,118,122,126,127,129,130,134,138 (80)168,169 - - 10 approx. boxes bone
F466 pit/trench - (80)84,119,103 - poss. mid 2nd century - 1 approx. box bone
F435 trench - (80)124,(=119) - 1+ boxes bone
F561 rubbish pit - (80)143 - 2+ boxes bone
F462 pit - (80)85,86,87,88,89,90,91 - part of box bone
F547 rubbish pit - (80)131,132,133 - poss.late 2nd century - 3 boxes bone
F560 rubbish pit - (80)142 - no bone
F556 rubbish pit - (80)141 - part of one box)
F562 (part of F556) (80)144,145 - part of one box)
F563 (part of F556) (80)146 - part of one box) about 2
F564 (part of F556) (80)147,148,149 - 1+ boxes bone) boxes bone

F571 pit/trench - (80)154 - 2nd/late 3rd century - part of 1 box
F518 pit - (80)121 -
This sequence of later pits in area (80) add up to about 34 boxes of material and could be an interesting assemblage to study. There is no information about residuality from the pottery studies from these contexts yet, and the dating is only provisional.

South Colonade Roof Collapse
(80)3,4,5,7 - 8 boxes bone - late Roman layer

(80)40 - contexts containing "pig skulls" on top of road at the south side of the insula. - 1 box bone.

Summary of Area (80) - 4 boxes of bones of military date
- 4 boxes of bone from main Hadrianic construction phase
- 34 boxes of bones from the late pits
- 8 boxes of bone from the roof collapse
- 1 box on road, very late?
- 30 boxes approx. of bone no information

Area (98)

As with area (80) some contexts have been selected for study for their pottery, it is for these contexts that information is available.

Military
About 6 boxes of bone - no information on context type

Early Civil
About 25 boxes bone - no information on context type - mostly recorded. Again it would be judicious to await the descriptions and matrix.

Main Hadrianic Construction
About 24 boxes bone - no information on context type.

Pits in the West Colonade behind the Booths
(should be finally linked up with material from area (90), &(97))
F800 bone pit - (98)69,96 - 4 boxes bone - late 3rd cent.
F933 inspection pit? - (98)100,101 - 3+ boxes bone,and dog skeleton
- 3rd century approx.(probably cow from photographs)
F804 latrine pit? - (98)78,81 - 3+ boxes bone

11 boxes of bones in all.

The Later Pits (= to Area (80) Pits)
F638 pit - (98)28 - late 3rd cent. - 14+ boxes bone
- (98)36 - possible overfill of F638 - 1 box bone
- some other recorded by B.Noddle
F675 pit - (98)45 - 3rd cent. - 5 boxes bone - could this assemblage be incomplete?
(F638 contemporary with F675 based on pottery joins)
F651 pit - (98)35 - 1 box bone
F672 pit - (98)40 - 3rd cent - 26+ boxes bone
F674 pit - (98)44 - late 3rd/4th cent.? - 3 boxes
F677 pit - (98)46 - 3rd cent. - 2 boxes bone
F678 pit - (98)47,48 - early 4th cent. - 10 boxes bone
F679/F682 pit- (98)49,50 - late 2nd/3rd cent. - 10 boxes bone
F680 pit - (98)51 - mid 2nd cent. - 3+ boxes bone
F714 pit - (98)53 - early 3rd cent. - 4 boxes bone
F766 pit - (98)60 - 2nd/3rd cent. - 6 boxes bone
F801 pit - (98)71 - mid 2nd cent. - 1 box bone
F855 pit - (98)75 - mid 2nd cent. - 1 box bone
F890 pit - (98)95 - 1 small box bone
F930 pit - (98)98 - could be 4th cent. - 5+ boxes bone

F974 pit - (98)139 - could be 3rd cent. - 6 boxes bone approx
1 box contaminated with (90)223

This sequence of pits seem to range in date from 2nd to 4th century in date. This might imply that the dating is based on residual material if the stratigraphy put these pits in the later phases of the site ie in the 4th century. However C.Wallace did imply that in area (98) there could be some stratigraphic phasing of the pits and therefore the completion of his matrix in April should be awaited before selecting which of the pits in area (98) would be good to study. This whole group of pits amount to about 100 boxes of bone and therefore constitute a large assemblage of material.

The "probably quite late layers"
(98)6,8,12 - 4th cent. - late Roman loam layers - 7+ boxes of bone ,but (98)12 is a robber trench fill and therefore there might be a problem of contamination (unless the macellum drain robber trench fill is contemporary with the late Roman loam layers).
(98)2,13,15,17,18,20 - late Roman loam layers - 23 boxes - some possible contamination, more information needed.
(98)30,36,57,59 - 3+ boxes bone
(98)14,22,70 - late Roman layers - 4+ boxes bone
F593 (98)19 - slot - 2+ boxes bone
F594 (98)21 -hearth/gravel surface - 2 boxes bone
(98)27 hearth - 2 boxes bone
(98)29 - 3rd cent. - no bone
F649 (98)32 - 1 box bone
(98)33 - 2nd cent. loam layer - 2 boxes bone
(98)56 - late 3rd cent. -3 boxes bone
F725 (98)54 - no bone
(98)62 - late 2nd cent. - 2 boxes bone

This whole group of "probably late layers" is fraught with problems. Not enough information is available about their archaeological significance. This group amounts to about 52 boxes of animal bones, but there is quite probably a significant amount of other material,the contexts of which did not inspire pottery work but still must be appraised.

Summary of Area (98): - 6 boxes of military bone
- 25 boxes of early civil bone
- 24 boxes of main Hadrianic construction
- 11 boxes bone pits in the west colonnade
- 100 boxes from pits
- 52 boxes of late layers
- 34 boxes of bone approx. no information

Recommendation for the South Corridor:
The military material of which there is estimated to be 10 boxes of bone, could be repacked and made available to B.Noddle. The early civilian material, which is of great interest archaeologically, and which is almost completly recorded, should be reassessed when context desriptions, and matrices are available in April. The main Hadrianic construction too should be assessed when the nature of the contexts is made available. The largest collection of material comes from the pits, 134 boxes, and 11 boxes from the west colonade. These form a potentially interesting group, however precisely which of these contexts can

be recommended for study must depend on the final matrix and phasing in April. The later layers are complicated by very sparse informtion, and nothing should be done with these, or the remaining 64 boxes for which there is no information at all, until more archaeological details are forthcoming.

The West Colonade and Insula Street

Military Area (90)/(97)
Area (90) - about half a box of bone)
Area (97) - 1 box bone) no information

Early Civil Areas (90)/(97)
Area (90) - 7 boxes bone) no information about context type
Area (97) - 12 boxes bone) mostly recorded

Main Hadrianic Construction Areas (90)/(97)
Area (90) - 73 boxes bone) no formation about context
ARea (97) - 22 boxes bone)

Pits in the West Colonade behind the Booths

F602 pit/trench -	(90)90,100,105 - 20 boxes bone
F599 no inf. -	(90)101 - 19 boxes bone
(there is more to this feature)	
Stylobate robber trench -	(90)5,15 - 1 box bone
F736 pit -	(90)128 - 14 boxes bone approx.
(F800)? -	(90)189,205,206,207 - 23+ boxes bone
F523 trench -	(97)72,100,101 - 9+ boxes bone

86 boxes of bone, which should be reviewed with the 11 from area (98)as the complete collection. There seems to be still some sorting out of the layers involved, and generally it might be better to reassess these with the matrix when it is completed.

The Late Market Deposit (= 4th cent. thick organic layer)
(90)9,14,16,17,25,31,33,34,80 - 7 boxes bone approx.
(90)1,3,4,7,12,13,19,20,21,22,23,32 - other layers with no bone
(96)21 - 4 boxes bone approx.
(96)22,23,24,25 - other layers with no bone
(97)25 - 17 boxes bone
(97)18,19,21 - other layers with no bone

These deposits would seem to be all connected with the late Roman loam layers of area (98). Similarly the precise nature of the deposits is not yet known nor whether all the contexts have been identified and dated. The above represent 28 boxes of material, and together with area (98) the assemblage seems to have potential, but more information is needed to make a precise selection.

Area (97)
F485 robber trench (97)51,57 - mid-late 3rd cent. - 8 boxes bone
(97)32 - + box bone
(97)52 - (amphora stamp 150 A.D.) - + box bone

Information about the nature of contexts is at the time of this assessment incomplete. The pottery from some contexts has been studied and in many cases the only information available is about those contexts. How these contexts were selected for study has not been discussed for this assessment, and there is no reason to

suppose that they are contexts of equal interest from the animal bone point of view.

Summary of West Colonade: - 1+ boxes of military bone
- 19 boxes of early civil
- 95 boxes of main Hadrianic construction
- 86 boxes from the booths' pits
- 28 boxes from the late market deposit
- 8 boxes from F485
- 151 boxes with no information

Recommendation for the West Colonade and Insula Street: The animal bone from this area with that of the South Corridor is potentially the most interesting on the site. The material from the early civil and main Hadrianic construction phases should be reassessed when more information about contexts is available. The assemblages most likely to be of interest from this area are the 86 boxes of bone from the pits, and the 28 boxes of "late market deposit".

The North and East Corridors

Area (91)
Military - 10 boxes bone approx
Early Civil - 7+ boxes bone - mostly recorded
Main Hadrianic Construction - 3+ boxes bone
F87 The North Corridor Pit - (91)11,56,60 - 7 boxes bone
No information - 10 boxes bone

Area (92)
Military - 1 box bone

Recommendation:
In total about 40 boxes of bone are represented here. There is also about 10 boxes of material that B.Noddle worked on from this area, some of which comes from the same context as above. This would seem to indicate that the assemblage at Ruislip is incomplete and so if any work is to be done on this material it should be integrated with that of B.Noddle. In view of these problems and the small quantity of material from these areas and the almost complete lack of any contextual information, the recommendation is that no work be attempted on this material, with the exception of the north corridor pit F87, until the complete matrix, phasing, and dating is available.

The Macellum

Areas (83)and (84)
Military - 6+ boxes bone
Early Civil - about half a box
The Hadrianic Construction - 10+ boxes bone
Hadrianic Fill in Macellum - 13+ boxes bone (topping-up layer)
No information - 21 boxes bone

Areas (86) ans (88)
Main Hadrianic Construction - Herring Bone Floor - 4 boxes bone
East-West Robber Trench - 5+ boxes bone
North-South Robber Trench - 26 boxes bone

Areas (85),(87),and (95)
Main Hadrianic Construction - 2 boxes bone
No information - 4 boxes bone

Summary for the Macellum - 6+ boxes bone of mmilitary
- + box bone of early civil
- 29+ boxes of Hadrianic construction
- 31+ boxes of Macellum robber trenchs
- 25 boxes of bone no information

Recommendation:
In all there are about 92 boxes of animal bone from the macellum. The military bone should be repacked and made available to B.Noddle. The early civil and Hadrianic construction phases can be reconsidered when more information is available about the contexts involved. The macellum drain robber trench fills should be considered as low priority until it is established what the animal bones may represent.

Including the 30 boxes which have decriptions such as "macellum post construction" but no context numbers, and 29 boxes with no information/identification at all, this accounts for all the 918 boxes of bone being assessed.

APPENDIX C

Species Lists For The Material Recorded By B.Meddens

The following are lists of the number of of bones identified to species, and the number of bones alotted to different catergories where specific identification was impossible. A complete list of all species, and definitions of the different categories is given at the end of the appendix.

Where bones are listed as being identified to species, particularly in the case of some birds, notes may be included in the records about the identifications and the confidence with which they have been given. This is not an ideal state but the purpose of this appendix is not to give a definative statement on the species present at Wroxeter, but to list the state of the records to date.

Species List For Wroxeter Barker Site A From File WROXAA2.SOR

	NUMBER OF BONES	PERCENTAGE
CATTLE	680	17.2
HORSE	1	<0.1
RED DEER	6	0.2
RED/FALLOW DEER	1	<0.1
SHEEP	8	0.2
GOAT	1	<0.1
SHEEP/GOAT	406	10.3
PIG	501	12.7
DOG	10	0.3
DOG/FOX	5	0.1
HARE	4	0.1
LARGE MAMMAL	1	<0.1
LARGE UNGULATE	1252	31.7
SMALL UNGULATE	739	18.7
SMALL MAMMAL (NOT NECCESARILY RODENT)	29	0.7
WATER VOLE	1	<0.1
MICE	1	<0.1
UNIDENTIFIED SMALL MAMMAL (RODENTIAE)	5	0.1
UNIDENTIFIABLE MAMMAL	137	3.5
FOWL	89	2.3
GOOSE	3	0.1
DOMESTIC DUCK/MALLARD	6	0.2
DUCK	2	0.1
TEAL	1	<0.1
GOLDENEYE	1	<0.1
MUTE SWAN	1	<0.1
LAPWING	1	<0.1
WOODCOCK	15	0.4
UNIDENTIFIABLE BIRD	38	1.0
FROG/TOAD	1	<0.1
UNIDENTIFABLED SPECIES	2	0.1

TOTAL NUMBER OF BONES 3948

Species List For Wroxeter Barker Site B From File WROXBB3.SOR

	NUMBER OF BONES	PERCENTAGE
CATTLE	3166	15.0
HORSE	18	0.1
RED DEER	97	0.5
RED+FALLOW DEER	9	<0.1
ROE DEER	5	<0.1
SHEEP	26	0.1
GOAT	2	<0.1
SHEEP/GOAT	1205	5.7
PIG	1883	8.9
DOG	57	0.3
DOG/FOX	20	0.1
CAT	20	0.1
RABBIT	3	<0.1
HARE	8	<0.1
LARGE MAMMAL	28	0.1
LARGE UNGULATE	8362	39.7
SMALL UNGULATE	3226	15.3
SMALL MAMMAL (NOT NECCESARILY RODENT)	119	0.6
MOLE	8	<0.1
VOLES	1	<0.1
BANK VOLE	1	<0.1
WATER VOLE	16	0.1
COMMON VOLE	5	<0.1
MICE	2	<0.1
WOOD MOUSE	1	<0.1
HOUSE MOUSE	3	<0.1
UNIDENTIFIED SMALL MAMMAL (RODENTIAE)	106	0.5
WEASEL	1	<0.1
BADGER	3	<0.1
UNIDENTIFIABLE MAMAL	2137	10.1
FOWL	211	1.0
GOOSE	7	<0.1
DUCK	1	<0.1
MALLARD	1	<0.1
DOMESTIC DUCK/MALLARD	4	<0.1
TEAL	1	<0.1
MUTE SWAN	3	<0.1
CRANES	2	<0.1
CRANE	1	<0.1
PLOVERS	1	<0.1
CURLEWS	1	<0.1
WOODCOCK	27	0.1
BARN OWL	3	<0.1
THRUSHES	20	0.1
CROWS	1	<0.1
JACKDAW	8	<0.1
CARRION CROW	2	<0.1
RAVEN	1	<0.1
STARLINGS	1	<0.1
SPARROWS	1	<0.1
FINCHES	1	<0.1
UNIDENTIFIABLE BIRD	192	0.9
FROG	3	<0.1
COMMON TOAD	1	<0.1
FROG/TOAD	16	0.1
UNIDENTIFIABLE FISH	3	<0.1
UNIDENTIFIABLE SPECIES	26	0.1
TOTAL NUMBER OF BONES 21077		

Species List For Wroxeter Barker Site C From File WROXCC2.SOR

	NUMBER OF BONES	PERCENTAGE
CATTLE	6756	19.5
HORSE	88	0.3
RED DEER	81	0.2
RED+FALLOW DEER	19	0.1
ROE DEER	5	<0.1
SHEEP	25	0.1
GOAT	7	<0.1
SHEEP/GOAT	1518	4.4
PIG	2961	8.5
DOG	130	0.4
DOG/FOX	29	0.1
CAT	4	<0.1
HARE	13	<0.1
LARGE MAMMAL	47	0.1
LARGE UNGULATE	16705	48.1
SMALL UNGULATE	4277	12.3
SMALL MAMMAL (NOT NECCESARILY RODENT)	79	0.2
MOLE	1	<0.1
WATER VOLE	1	<0.1
UNIDENTIFIED SMALL MAMMAL (RODENTIAE)	16	0.1
BADGER	1	<0.1
UNIDENTIFIABLE MAMAL	1415	4.1
FOWL	278	0.8
GOOSE	7	<0.1
BARNCALE GOOSE	1	<0.1
DOMESTIC DUCK/MALLARD	17	0.1
DUCK	1	<0.1
GARGANEY	1	<0.1
SWAN	1	<0.1
WHOOPER SWAN	1	<0.1
GREY HERON	1	<0.1
CRANES	1	<0.1
CRANE	1	<0.1
WATER RAIL	1	<0.1
PLOVERS	6	<0.1
CURLEWS	3	<0.1
WOODCOCK	48	0.1
PIGEONS	2	<0.1
PIGEON	1	<0.1
LONG-EARED OWL	1	<0.1
THRUSHES	1	<0.1
FIELDFARE	1	<0.1
BLACKBIRD	1	<0.1
SONG THRUSH	1	<0.1
CROWS	3	<0.1
RAVEN	11	<0.1
FINCHES	1	<0.1
UNIDENTIFIABLE BIRD	144	0.4
FROG/TOAD	8	<0.1
UNIDENTIFABLED SPECIES	8	<0.1
TOTAL NUMBER OF BONES 34734		

Species List For Wroxeter Barker Site D From File WROXDD1.SOR

	NUMBER OF BONES	PERCENTAGE
CATTLE	1377	25.3
HORSE	13	0.2
RED DEER	14	0.3
RED+FALLOW DEER	1	<0.1
ROE DEER	1	<0.1
SHEEP	3	<0.1
GOAT	1	<0.1
SHEEP/GOAT	187	3.4
PIG	656	12.0
DOG	33	0.6
FOX	1	<0.1
DOG/FOX	11	0.2
CAT	7	0.1
HARE	2	<0.1
LARGE UNGULATE	2180	40.0
SMALL UNGULATE	531	9.7
SMALL MAMMAL (NOT NECCESARILY RODENT)	38	0.7
MOLE	3	<0.1
WATER VOLE	5	<0.1
UNIDENTIFIED SMALL MAMMAL (RODENTIAE)	5	<0.1
BADGER	1	<0.1
UNIDENTIFIABLE MAMAL	270	5.0
FOWL	43	0.8
GOOSE	3	<0.1
DUCK	1	<0.1
CURLEWS	1	<0.1
WOODCOCK	5	<0.1
DOMESTIC PIGEON	1	<0.1
PIGEON	1	<0.1
THRUSHES	1	<0.1
JACKDAW	3	<0.1
ROOK	1	<0.1
CARRION CROW	1	<0.1
RAVEN	1	<0.1
FINCHES	1	<0.1
UNIDENTIFIABLE BIRD	43	0.8
FROG/TOAD	4	<0.1

TOTAL NUMBER OF BONES 5450

Species List For Wroxeter Barker Site E From File WROXEE2.SOR

	NUMBER OF BONES	PERCENTAGE
CATTLE	4431	14.5
HORSE	30	0.1
RED DEER	64	0.2
RED+FALLOW DEER	7	<0.1
ROE DEER	10	<0.1
SHEEP	25	<0.1
GOAT	5	<0.1
SHEEP/GOAT	1178	3.9
PIG	1565	5.1
DOG	53	0.2
DOG/FOX	16	<0.1
CAT	11	<0.1
RABBIT	2	<0.1
HARE	10	<0.1
LARGE MAMMAL	24	<0.1
LARGE UNGULATE	16508	53.9
SMALL UNGULATE	3722	12.2
SMALL MAMMAL (NOT NECCESARILY RODENT)	60	0.2
BADGER	1	<0.1
UNIDENTIFIABLE MAMAL	2777	9.1
FOWL	33	0.1
GOOSE	3	<0.1
DOMESTIC DUCK/MALLARD	4	<0.1
GEESE AND DUCKS	2	<0.1
HAWKS BUZZARDS ETC.	1	<0.1
WOODCOCK	13	<0.1
RAVEN	18	<0.1
UNIDENTIFIABLE BIRD	33	0.1
FROG/TOAD	1	<0.1
UNIDENTIFIABLE SPECIES	2	<0.1

TOTAL NUMBER OF BONES 30629

Species List For Wroxeter Barker Site E From File WROXEE2B.SOR

	NUMBER OF BONES	PERCENTAGE
CATTLE	4705	17.1
HORSE	20	<0.1
RED DEER	43	0.2
RED+FALLOW DEER	3	<0.1
ROE DEER	6	<0.1
SHEEP	15	<0.1
GOAT	1	<0.1
SHEEP/GOAT	1107	4.0
PIG	1333	4.9
DOG	40	0.2
DOG/FOX	6	<0.1
CAT	2	<0.1
HARE	6	<0.1
LARGE MAMMAL	25	<0.1
LARGE UNGULATE	10615	38.6
SMALL UNGULATE	2538	9.2
SMALL MAMMAL (NOT NECCESARILY RODENT)	24	<0.1
UNIDENTIFIABLE MAMAL	6943	25.3
FOWL	17	<0.1
CARRION CROW	1	<0.1
RAVEN	8	<0.1
UNIDENTIFIABLE BIRD	26	<0.1
UNIDENTIFABLED SPECIES	12	<0.1

TOTAL NUMBER OF BONES 27496

Species Lists For The Material Recorded By P.Aldridge

Species List For Wroxeter Barker Site D From File WROXP1.SOR

	NUMBER OF BONES	PERCENTAGE
CATTLE	5836	22.5
HORSE	95	0.4
RED DEER	57	0.2
ROE DEER	6	<0.1
SHEEP	1	<0.1
SHEEP/GOAT	886	3.4
PIG	2245	8.6
DOG	170	0.7
DOG/FOX	22	<0.1
FOX	1	<0.1
CAT	9	<0.1
RABBIT	18	<0.1
HARE	12	<0.1
LARGE MAMMAL	11042	42.5
LARGE UNGULATE	34	0.1
SMALL UNGULATE	5231	20.1
SMALL MAMMAL (NOT NECCESARILY RODENT)	15	<0.1
WATER SHREW	7	<0.1
WATER VOLE	19	<0.1
SHORT TAILLED VOLE	15	<0.1
BLACK RAT	14	<0.1
BROWN RAT	1	<0.1
UNIDENTIFIED SMALL MAMMAL (RODENTIAE)	39	0.2
UNIDENTIFIABLE MAMAL	13	<0.1
FOWL	99	0.4
GOOSE	2	<0.1
GOOOSE	1	<0.1
DOMESTIC DUCK	1	<0.1
DUCK	1	<0.1
DOMESTIC DUCK/MALLARD	2	<0.1
WOODCOCK	21	<0.1
PIGEONS	2	<0.1
PIGEON	1	<0.1
BLACKBIRD	1	<0.1
HOUSE SPARROW	1	<0.1
CROWS	2	<0.1
MAGPIE	1	<0.1
JACKDAW	4	<0.1
CARRION CROW	1	<0.1
RAVEN	6	<0.1
UNIDENTIFIABLE BIRD	51	0.2
FROG	7	<0.1
COMMON TOAD	4	<0.1

TOTAL NUMBER OF BONES 25996

Species List For Wroxeter Barker Site D From File WROXP2.SOR

	NUMBER OF BONES	PERCENTAGE
CATTLE	7697	21.5
HORSE	129	0.4
RED DEER	83	0.2
ROE DEER	6	<0.1
SHEEP	1	<0.1
SHEEP/GOAT	1156	3.2
PIG	2984	8.3
DOG	247	0.7
DOG/FOX	35	0.1
FOX	1	<0.1
CAT	13	<0.1
RABBIT	21	<0.1
HARE	15	<0.1
LARGE MAMMAL	15041	42.1
LARGE UNGULATE	41	0.1
SMALL UNGULATE	7873	22.0
SMALL MAMMAL (NOT NECCESARILY RODENT)	18	<0.1
COMMON SHREW	8	<0.1
WATER SHREW	7	<0.1
WATER VOLE	30	<0.1
SHORT TAILED VOLE	15	<0.1
BLACK RAT	14	<0.1
BROWN RAT	1	<0.1
HOUSE MOUSE	8	<0.1
UNIDENTIFIED SMALL MAMMAL (RODENTIAE)	45	0.1
UNIDENTIFIABLE MAMAL	13	<0.1
FOWL	123	0.3
GOOSE	2	<0.1
GOOSE	1	<0.1
DOMESTIC DUCK	1	<0.1
DUCK	1	<0.1
DOMESTIC DUCK/MALLARD	2	<0.1
WOODCOCK	26	<0.1
PIGEONS	2	<0.1
PIGEON	2	<0.1
BLACKBIRD	1	<0.1
HOUSE SPARROW	1	<0.1
CROWS	2	<0.1
MAGPIE	2	<0.1
JACKDAW	4	<0.1
CARRION CROW	1	<0.1
RAVEN	6	<0.1
UNIDENTIFIABLE BIRD	65	0.2
COMMON FROG	9	<0.1
COMMON TOAD	9	<0.1

TOTAL NUMBER OF BONES 35762

Species Lists For The Material Recorded By F.Meddens

Species List For Wroxeter Webster Site 80 From File WB80.SOR

	NUMBER OF BONES	PERCENTAGE
CATTLE	5	7.5
SHEEP	1	1.5
SHEEP/GOAT	5	7.5
PIG	12	17.9
LARGE UNGULATE	29	43.3
SMALL UNGULATE	15	22.4
TOTAL NUMBER OF BONES 67		

Species List For Wroxeter Webster Site 83 From File WB83.SOR

	NUMBER OF BONES	PERCENTAGE
CATTLE	18	30.0
SHEEP	1	1.8
SHEPP/GOAT	5	8.3
PIG	5	8.3
LARGE MAMMAL	5	8.3
LARGE UNGULATE	10	16.7
SMALL UNGULATE	15	25.0
UNIDENTIFIED MAMMAL	1	1.7
TOTAL NUMBER OF BONES 60		

Species List For Wroxeter Webster Site 86 From File WB86.SOR

	NUMBER OF BONES	PERCENTAGE
CATTLE	88	39.8
SHEEP	1	0.5
GOAT	1	0.5
SHEEP/GOAT	13	5.9
PIG	14	6.3
DOG	4	1.8
LARGE UNGULATE	80	36.2
SMALL UNGULATE	20	9.1
TOTAL NUMBER OF BONES 221		

Species List For Wroxeter Webster Site 90 From File WB90.SOR

	NUMBER OF BONES	PERCENTAGE
CATTLE	1215	14.4
RED DEER	7	<0.1
SHEEP	18	0.2
GOAT	1	<0.1
SHEEP/GOAT	279	3.3
PIG	155	1.8
DOG	21	0.6
HARE	1	<0.1
LARGE UNGULATE	5848	69.2
SMALL UNGULATE	905	10.7
SMALL MAMMAL (NOT NECCESARILY RODENT)	1	<0.1
UNIDENTIFIABLE MAMAL	2	<0.1
RAVEN	2	<0.1
TOTAL NUMBER OF BONES 8455		

Species List For Wroxeter Webster Site 91 From File WB91.SOR

	NUMBER OF BONES	PERCENTAGE
CATTLE	96	25.0
FALLOW DEER	1	0.3
SHEEP	1	0.3
SHEEP/GOAT	28	7.3
PIG	27	7.0
DOG	1	0.3
LARGE UNGULATE	158	41.2
SMALL UNGULATE	68	17.7
SMALL MAMMAL (NOT NECCESARILY RODENT)	1	0.3
UNIDENTIFIABLE MAMAL	3	0.8

TOTAL NUMBER OF BONES 384

Species List For Wroxeter Webster Site 97 From File WB97.SOR

	NUMBER OF BONES	PERCENTAGE
CATTLE	187	13.0
HORSE	1	<0.1
RED DEER	1	<0.1
ROE DEER	1	<0.1
SHEEP/GOAT	135	9.4
PIG	76	5.3
DOG	7	0.5
LARGE UNGULATE	668	46.5
SMALL UNGULATE	339	23.6
UNIDENTIFIABLE MAMAL	22	1.5

TOTAL NUMBER OF BONES 1437

Species List For Wroxeter Webster Site 98 From File WB98.SOR

	NUMBER OF BONES	PERCENTAGE
CATTLE	377	13.6
PIG	147	5.3
HORSE	1	<0.1
ROE DEER	1	<0.1
SHEEP	9	0.3
GOAT	2	<0.1
SHEEP/GOAT	226	8.1
DOG	9	0.3
HARE	19	0.7
LARGE MAMMAL	46	1.7
LARGE UNGULATE	1267	45.6
SMALL UNGULATE	631	22.7
SMALL MAMMAL (NOT NECCESARILY RODENT)	3	0.1
UNIDENTIFIABLE MAMAL	42	1.5

TOTAL NUMBER OF BONES 2780

Complete List of Species Identified and Other Categories

HEDGEHOG - *Erinaceus europaeus*
MOLE - *Talpa europaea*
COMMON SHREW - *Sorex araneus*
WATER SHREW - *Neomys fodiens*
RABBIT - *Oryctolagus cuniculus*
HARE - Lepus sp.
UNIDENTIFIED SMALL MAMMAL - Rodentia
VOLES - Cricetidae
BANK VOLE - *Clethrionomys glareolus*
SHORT TAILED/FIELD VOLE - *Microtus agrestis*
COMMON/ORKNEY VOLE - *Microtus arvalis*
WATER VOLE - *Arvicola terrestris*
MICE - Muridae
MOUSE - Apodemus sp.
WOOD MOUSE - *Apodemus sylvaticus*
HOUSE MOUSE - *Mus musculus*
BLACK RAT - *Rattus rattus*
BROWN RAT - *Rattus norvegicus*
DOG - *Canis familiaris*
FOX - *Vulpes vulpes*
DOG/FOX - DOG or FOX
WEASEL - *Mustela nivalis*
BADGER - *Meles meles*
CAT - *Felis catus*
HORSE - *Equus caballus*
PIG - *Sus domesticus*
RED DEER - *Cervus elaphus*
FALLOW DEER - *Dama dama*
RED/FALLOW DEER - RED or FALLOW DEER
ROE DEER - *Capreolus capreolus*
CATTLE - *Bos taurus*
GOAT - *Capra hircus*
SHEEP - *Ovis aries*
SHEEP/GOAT - SHEEP or GOAT
SMALL MAMMAL (NOT NECCESARILY RODENT) usually DOG, CAT sized
SMALL UNGULATE - SHEEP sized, from an animal of that size, usually SHEEP, GOAT, ROE DEER, FALLOW DEER or PIG
LARGE UNGULATE - CATTLE sized, from an animal of that size usually CATTLE, HORSE, RED DEER, or FALLOW DEER, sometimes large PIG (although horse is not an ungulate)
LARGE MAMMAL - used by various workers in a similar way as the LARGE UNGULATE category
UNIDENTIFIABLE MAMMAL - identified as mammal but not sized.
GREY HERON - *Ardea cinerea*
GEESE AND DUCKS - Anatidae
SWAN - Cygnus sp.
MUTE SWAN - *Cygnus olor*
WHOOPER SWAN - *Cygnus cygnus*
FOWL - DOMESTIC CHICKEN or sometimes PHEASANT
DOMESTIC GOOSE - *Anser anser* (domestic or greylag goose)
GOOSE - Anser sp./Branta sp.
GOOSE - *Anser anser*
BARNACLE GOOSE - *Branta leucopsis*
DOMESTIC DUCK - *Anas platyrhynchos* (domestic duck or mallard)
DUCK - Anas sp.
DUCK - Aythya sp.
MALLARD - *Anas platyrhynchos*
DOMESTIC DUCK/MALLARD - DOMESTIC DUCK or MALLARD
TEAL - *Anas crecca*

GARGANEY - Anas querquedula
GOLDENEYE - Bucephala clangula
BUZZARDS etc. - Acipitridae
WATER RAIL - Rallus aquaticus
CRANES - Gruidae
CRANE - Grus grus
PLOVERS - Charadriidae
LAPWING - Vanellus vanellus
CURLEWS - Scolopacidae
WOODCOCK - Scolopax rusticola
PIGEONS - Columbidae
PIGEON - Columba sp.
BARN OWL - Tyto alba
LONG-EARED OWL - Asio otus
THRUSHES - Turdidae
FIELDFARE - Turdius pilaris
SONG THRUSH - Turdus phyilomelos
BLACKBIRD - Turdus merula
CROWS - Corvidae
MAGPIE - Pica pica
JACKDAW - Corvus monedula
ROOK - Corvus frugilegus
CARRION CROW - Corvus corone corone
RAVEN - Corvus corax
STARLINGS -Sturnidae
SPARROWS - Passeridae
HOUSE SPARROW - Passer domesticus
FINCHES - Fringillidae
UNIDENTIFIABLE BIRD - identified only as bird bone
FROG - Rana temmporaria
COMMON TOAD - Bufo bufo
FROG/TOAD - Rana sp. or Bufo sp.
UNIDENTIFIABLE FISH - identified only as fish bone
UNIDENTIFIABLE SPECIES - not identified to any class of vertebrate