Ancient Monuments Laboratory Report 56/86

ANIMAL BONES FROM NEWBURY, BERKS. 3. EXCAVATIONS IN CHEAP ST., 1981-82.

Jennie P Coy BSc FLS FSA MIFA

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Summary

This third of three reports from Newbury examines material from 12th to 18th century AD. As well as the common domestic species, it provides evidence of some wild species of mammal and bird, and of fish and marine molluscs. Again there was an extensive sieving programme, material from which was scanned. Only dateable material was fully computer-coded. From the back of the site a large quantity of material from garden soils was scanned and some attempt made to look for dating evidence from the bones.

Once again the early phases show an important concentration on sheep. Cattle dominates in terms of fragment numbers as well as meat in the late medieval and postmedieval deposits. There is, however, only a suspicion of a rise in pig bones (better seen at Bartholomew St.). The report rounds off discussion of Newbury. The measured bone sample is guite small but already gives an indication that size changes similar to those described by Bourdillon for Southampton may have been taking place.

Author's address:

Department of Archaeology University of Southampton Highfield Southampton SO9 5NH

0703 559122

C Historic Buildings, and Monuments Commission for England

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ANIMAL BONES FROM NEWBURY

This is the third report for material from Newbury, the previous two were for material from Bartholomew Street nearby (Coy n.d.1, n.d.2). Because of the closeness of the sites and the similarity of the material the bones have been studied in the same manner and some of the results are reviewed as a whole in this report. Measurements and ageing data for all the sites is included in the archival tables associated with this report.

INTRODUCTION

Material and Method

The excavations were conducted in 1981 and 1982 by the Wessex Archaeological Committee, now the Trust for Wessex Archaeology. The site presents a complex set of associations and the subdivisions given by the excavator are shown in Table 1 with a overview of bones identified to the different groups. In addition to this dated and provisionally ascribed material which was fully computer-coded, there is a large quantity of unstratified bones from the 'garden soil ' at the back of the These were scanned in an attempt to assess their date. site. Four boxes of bones from contexts just phased as 'post-medieval' were not even scanned, just quickly examined. These did indeed look like post-medieval bone and may be of interest to examine for size and butchery at a future date if there is more information on them. A bone of the turkey, <u>Meleagris</u> gallopavo confirms the post-medieval date of Context 496.

As far as possible the material is dealt with by direct comparison with the two sets of Newbury material already reported on in 1 and 2. The methods of identification and analysis used for all three sites were the normal ones used in the medieval and post-medieval programme in the Faunal Remains Unit (FRU).

The layers from which bones were studied are listed in their phase divisions in Archive Table A1. Bones extracted for specialist study are listed in Table A2.

The sample for each phase is adequate for some detailed comparisons which are discussed below, although for some comparisons and for the measurements the phases are combined into larger period blocks. On the whole the material from these excavations is not so well-preserved as that from Bartholomew Street. The values for ivoried bone are nowhere near so high. This is not surprising when the types of deposition are considered.

The Sieving Programme

The layers from which sieved material was examined are those underlined in Table A1. Bulk samples ranged in size from 4 to 16 litres and were washed through 1mm sieves after disaggregation. Not all the samples examined contained bone. Many thousands of fragments of bone from this process were examined but 90% of the material from this process was probably from the common ungulates and not identifiable to anatomical element. A few pieces were

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TABLE 1

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FULLY RECORDED ANIMAL BONES BY PHASE DIVISIONS

phase	date	Common ungulates	other mammals	birds	fish	amph	shell	TOTALS
Phase 1A Phase 1B Phase 1B? Phase 1C	2nd half 12th C AD late 12 - mid 14th "unstratified" "midden"	674 552 161 1208	10 14 6 7	19 23 58 35	5 2 7 5	7 9 - 31	3 5 12	718 605 232 1298
• PHASE 1	TOTALS (inc 1B?)	2595	37	135	19	47	20	2853
S phase 2 N phase 2	mid 14th- 2nd q 15t	h 254 257	9 9	24 30	- 1	-	16 88	303 385
PHASE 2	TOTALS	511	18	54	1		104	688
S phase 3 N phase 3	c.1430 - ea 17th C	660 270	15 11	46 73	4 11		1 16	726 381
PHASE 3	TOTALS	930	26	119	15		17	1107
S phase 4 N phase 4	17th & 18th C AD	898 1028	24 23	58 96	4 28	1 -	10	985 1185
PHASE 4	TOTALS	1926	47	154	32	1	10	2170

NOTE S = Southern Property N = Northern Property bird bone and more rarely fish fragments were recorded.

Three species would not have been found if there had not been a sieving programme - common eel, herring, and shark. There was a high incidence of burnt fragments in the sievings and occasional loose teeth of the common mammals. Only identifiable fragments which provided further useful information were recorded but generally the sieved material provided a check on the level of retrieval and the type of deposit being examined.

<u>Scanning</u>

The bones from the garden soil at the back of the southern property were associated with disturbed layers containing pottery dating from the 13th to 19th Century AD. These were kept separate and were scanned for butchery and fragmentation criteria that might provide dating evidence, measured where possible, and recorded if of uncommon species. They were not fully computercoded. Garden soil contexts which were associated with pottery that could be fairly closely dated were examined alongside other material of that date and fully computer-coded.

The individual contexts involved in the scan, like the other site divisions are listed in Table A1, with sieved layers underlined. Results for the scan were scored on a species x anatomy sheet and only the few measureable and other notable elements that might aid dating were computer-coded into a separate file kept apart from the rest of the W3 data. This short-cut enables time to be saved on undateable material but it is essential not to combine the partial data from such a scan with that obtained from the rest of the site. To this end the scanned material from this site that was computer-coded is marked 'scan' in the free-writing field in archive and has not been included in any of the site catalogues (Table A54).

On the whole the material from the scan does not appear to be notably more residual in nature than some of the other material. There is not a marked increase in dog-gnawed bones and some of the material shows indications of primary deposition. Further details of the scanned material are given in the contextual section.

The material from features below the garden soil was also not generally possible to phase stratigraphically but much of it was regarded by the excavator as belonging to Phase 1b. In these cases the bone was fully computer-coded and assigned to a separate phase called 1b?. For some exercises in the analysis this was included in the Phase 1 material. In some criteria it was quite unlike the rest of the material from Phase 1.

Arrangement of Report and Archive

The minimum of data is included with this report. The rest of the tables produced in order to write it (these should be regarded as part of the report) are listed after the list of contents as archive tables and have been sent to the excavator.

This part of the archive plus all primary records and processed records are available at FRU - the last two in both in computer-readable and printout form. Further details of these are given in Table A54.

Measurements

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Measurements for all the Newbury sites are dealt with together because there does not at this stage of knowledge appear to be any significant difference between results for Cheap Street and those for Bartholomew Street. Cheap Street has by far the larger number of measureable bones but the sample is small compared with what is already known for Winchester and Southampton. The figures for measurements of the commonest species - cattle, sheep, pig, and domestic fowl - are in Archive Tables A47-A50. These give an outline for medieval and post-medieval Newbury which can form a basis for future work.

The periodisation used in the measurement catalogue is as follows:

1	10-11th C AD	Bart St 1979 Period 1
2	11-mid 14th C	Bart St 1974, 1979 Period 2-4, Cheap St all phase 1
3	14-15th C AD	Cheap St phase 2
4	1 4- 17th C AD	Bart St 1979 Period 5 & 6, Cheap St phase 3
5	17-18th C AD	Bart St 1979 Period 7 Cheap St phase 4

Divisions 2 and 4 are not split at this stage or the samples would become too small to demonstrate any differences even of the crudest sort, whereas by using this division it is possible to show up any size trends in Newbury between the medieval deposits with their higher concentration on sheep bones and the postmedieval phases which appear to show less emphasis on sheep. Cheap Street Phase 2, despite its small sample has been deliberately left unamalgamated as it is not quite clear to which of these two divisions it belongs and in order to unmask any transitional processes.

Measurements are a difficult tool but one of the few we have for sorting out changes in animal husbandry during medieval and post-medieval times. Only means, ranges, standard deviations, and coefficients of variation are given in the tables and although these are now beginning to show up slight differences within and between the different Wessex locations it is likely that when more figures have been obtained some other criteria may show us more. Where measurements are highly variable the modal groups may give a better indication of the extent to which interbreeding was taking place at a particular time. The results of wider outbreeding are probably what we are seeing towards the end of the Medieval Period and it may be possible in the future to distinguish some of these from other factors at work at the time - e.g. better feeding and selective breeding.

Cross-breeding might be expected to result in a mixed phenotype giving a variable set of figures, perhaps with a wider size range and certainly some larger beasts as a result of heterosis (hybrid vigour). This is a more likely explanation

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for mixed phenotype seen in these collections than the 'large imports versus small natives' explanation often given in archaeology.

THE SPECIES EXPLOITED

Domestic Ungulates

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The common domestic ungulates horse, cattle, sheep, goat, and pig probably account for most of the identified bones and unidentifiable fragments (Table 1). Common ungulate species and anatomies for the different divisions are given in archive (Tables A3-A12 and A42 for the scan). Once again the bulk of the ovicaprid bones are probably from sheep.

There is no phase at Cheap Street which can be compared with the earliest period at Bartholomew Street.

For the 12-14th Century the domestic element is as wellrepresented as it is in Bartholomew Street at this time (over 90% of fragments reckoned to be from common ungulates) and continuing so in later phases of the southern property. The 1b? (unstratified) material is only anomalous in this respect if all the chicken bones from a whole skeleton are counted (see the contextual section).

Results for the northern property, however, from Phase 2 onwards provides a different picture with bones of other species making up from 13 to 26% of the fragments: much more like the results for later periods for Bartholomew Street, although there are some differences between the southern and northern properties, especially in Phase 3. For this and other reasons the results for the two properties are often given separately.

As will be seen in the contextual section the two Newbury sites are often very different contextually, with the bones at Cheap Street less likely to come from pits. The type of context influences the amount of sieving and this in turn has a great effect on the retrieval of fish. Fragmentation will also vary in the different types of feature and this can also cause a shift in specific ratios.

Table 2 shows the specific percentages for cattle, sheep, and pig calculated from fragment numbers. For the 11th-14th Century division Cheap Street demonstrates even more of a bias towards sheep in Phase 1 than in the Bartholomew Street period 3 material with 57-8% of identified ungulate bones identified to sheep or goat in 1a and 1b. Material from 1b? is again anomalous. The midden phase 1c shows a slight shift towards cattle and away from sheep.

Specific percentages change significantly for the Phase 2 (14th-15th Century) remains where cattle bones are in the majority for both southern and northern properties.

Phase 3 (15th-17th Century) compares with its roughly contemporary periods in Bartholomew Street (Periods 5 and 6) by retaining a superiority in cattle bones but only the northern property shows a comparable emphasis on pigs (this emphasis may also be slightly reflected in Phase 2 results for the northern property).

Cheap Street provides a better sample of late material of

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TABLE 2SPECIFIC PERCENTAGES BY PHASE

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Figures given are fragment numbers (percentage of total in brackets)

Phase	cat	tle %	sheep	8	pig	ጽ	total
Phase 1A Phase 1B Phase 1B? Phase 1C	9 7 4 26	6 (27) 7 (29) 5 (49) 7 (38)	205 153 33 331	(58) (57) (36) (48)	52 38 14 98	(15) (14) (15) (14)	353 268 92 696
PHASE 1 OV	verall 48	5 (35)	722	(51)	202	(14)	1409
S phase 2 N phase 2	8: 9:	2 (56) 8 (57)	39 30	(27) (17)	25 43	(17) (25)	146 171
PHASE 2 TO	DTALS 18	0 (57)	69	(22)	68	(21)	317
S phase 3 N phase 3	19 3	0 (46) 9 (35)	136 32	(33) (28)	84 41	(21) (37)	410 112
PHASE 3 TO	DTALS 22	9 (44)	168	(32)	125	(24)	522
S phase 4 N phase 4	23) 352	0 (48) 2 (56)	177 209	(37) (33)	71 70	(15) (11)	478 631
PHASE 4 TO	DTALS 582	2 (52)	386	(35)	141	(13)	1109

NOTE S = Southern Property N = Northern Property 17th-18th Century bone in Phase 4 than does Bartholomew Street. Again there are differences between southern and northern properties but generally cattle is in first place and sheep in second.

Chi-squared tests can be used to produce highly significant values for the above results in several different ways but are not given here because the phases are also too split and diverse to make the results very useful.

In conclusion, there do seem to be some definite and significant changes in the extent to which the three main species are exploited in the different phases and properties. Some of these tie in with changes already noted in Bartholomew Street. Throughout this analysis, however, the various alternative explanations for these results will be weighed in order to assess whether these changes from sheep to cattle, the emphasis in some deposit on pigs, and the discrepancies between results from the different properties have contributory taphonomic causes. That is, could they be linked to depositional, preservational, or retrieval processes.

Horse

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Horse is over twice as well-represented as at Bartholomew Street but at 207 fragments this is scarcely revolutionary. The animals represented were of a variety of ages.

Teeth from Phase 1a are from animals assessed at c.18 months, around 4 years, and at least 14 years. Context 1226 in Phase 1b contained a partial burial of a horse 2 years at the most. A tooth in 1288 is from one at least 6 years. Foot bones in a number of 1c contexts represent animals of pony size one a bit smaller than a modern New Forest Pony of 1.39m (13 hands 3) and one even smaller. There were no bones in Phase 1 from which an accurate withers height could be assessed.

For Phase 2 a radius in context 798, Feature 1016, gives a withers height of 1.35m (13 hands 1) but withers heights from major longbones for some ponies seem to be lower than those derived from metapodials. This is the only horse bone in this phase from the southern property. Foot bones in Context 935 in Phase 2 of the northern property also represented a horse about this size.

A metatarsus in Context 710 in the third phase of the southern property gives a very rough estimate for withers height of 1.44m (14 hands 1) still just within the modern definition of a pony. A jaw in this phase (Context 558) has a cut mark possibly caused by skinning.

In Phase 4, incisors in Contexts 364 and 421 come from an animal at least 17 years old.

There was a horse burial of uncertain date in Context 489 in the garden soil representing an animal of about 10 years. Its withers height from the metapodials is estimated at about 1.42m (14 hands).

Horse remains therefore seem to represent small animals of a useful size and there is no reason why the older ones could not have been working animals and the young ones premature deaths. The presence of these young horses suggests that horses were bred in the town.

Cattle

Because of their larger size cattle are the mainstay in terms of meat even in the early periods when sheep bones outnumber them in numbers of fragments. In the phase 1c midden they are better represented than in Phases 1a and 1b and in the unstratified material in 1b? they are almost as well-represented as in Phase 2 (Table 2). The taphonomic discussions below, however, suggest that this collection may be biassed towards large bones and therefore towards cattle bones.

Phase 2 shows high values for cattle (over half the specifically identifiable ungulate bones) which are higher than in any of the Bartholomew Street Periods. Some of the taphonomic aspects which might militate against a straightforward economic view of these results are discussed in the contextual sections, but at face value this might suggest a somewhat higher standard of eating in Cheap Street Phase 2 than in the contemporary Bartholomew Street Phase 5 or on either site until post-medieval times.

The parts of cattle represented, throughout the site are generally from all parts of the body except for a few specialised deposits mentioned in the contextual section. There is a clear overall trend though for the head and foot bones to become less common with time and the meat-bearing parts of the body such as ribs, vertebrae, and the major longbones to form a higher proportion of the total (Archive Table A51). The values for Phase 1 range from 35 to 44% meat-bearing bones and show some difference in Phase 2 between the southern property (53%) and the northern property (35%). But the great difference comes after this - results for Phases 3 and 4 range from 67-74% meat-bearing Bartholomew Street seems to show a high value throughout bones. (47-61%) and we may be dealing here with a different type of waste, perhaps a higher proportion of food preparation waste.

Cattle withers height estimates range from 1.08 to 1.27m (n=8). Some of the individual measurements in the 11th - 14th Century block in archive (Table A47) are smaller than the lowest measurement in the enormous database for Saxon Southampton (Bourdillon in preparation). Despite the small number of measurements from Newbury it is already possible to see a general trend to a larger size in the later groups: the 15-17th Century and 17th-18th Century blocks show an increasing trend towards larger minima and maxima. A comparison of modal groups as already suggested will be preferable to future comparison of means.

The few horn cores give little evidence for the change in types through time. What little evidence there is from Phases 1a and 1b is of short horns. A small collection of horn cores in Layer 878 of the 1c midden contains 7 assessable horn cores, 3 in the short category for medieval horn cores (100-150mm Armitage and Clutton-Brock 1976). Two of the three are at the top of this range. The remaining 4 come in the medium category (150-200mm). Some of the cores are thin-walled and could have come from castrates.

Phase 2 provides most of the horn core evidence. Of 15 assessable cores, 3 are in the small category (less than 100mm), 9 in the short or medium category, and 4 in at least the upper ranges of the medium category, perhaps achieving a length of 200mm. Eight of the cores are thin-walled. There was a collection representing about 15 cores in Layer 935 of the northern property. Most of the cores at Newbury are joined to a part of the frontal bone but many bear cuts and judging from the more extensive results from medieval Reading this may be the usual way in which cores were exploited. Some of the core shapes resemble those found at Reading and a more detailed comparison might be worthwhile in the future when there has been further analysis of the material from that site.

Core evidence from Phases 3 and 4 is very poor - there are a few of medium size.

The representation of calf bones rises from 3% of identified cattle bones in Phase 1, through 6% in Phase 2 to a peak of 17% in Phase 3, then 15% in Phase 4. Some of them would have been quite large animals and it is likely that this represents an increase in the use of calves as high quality food. A few bear confirmatory butchery evidence. Early on in the Newbury analysis the slender shape of some isolated immature bones necessitated a rapid check with comparative material of red deer calf and immature cattle but on balance it was decided that all the remains were from domestic cattle as they most closely matched a whole skeleton of a medieval calf.

Most of the mandibular remains which produce ageing evidence are from mature animals. Details are recorded in the computer archive and apart from a few jaws of calves are of animals with all three molars in wear (Stage 30 or above of Grant 1982).

The two slight peaks in the data are for animals between Grant Wear Stages 30 and 35 and between 45 and 50. The latter Can be regarded as heavily worn teeth and therefore quite elderly animals perhaps at the end of a calf-bearing, milking, or working life. In all there are only 40 jaws from the whole of Newbury which can be put into a Grant Wear Stage and there is no particular age bias in any phase. There are pathological cattle phalanges with exostoses and distortion which may be linked with draught use in the Phase 1c midden, Contexts 1074 and 1152.

Sheep

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Sheep and the category ovicaprid (which is probably mostly bones of sheep) provide more bones than any other species at Cheap Street. It is the dominant species in terms of fragment numbers in Phases 1a, 1b and 1c and takes second place to cattle in all other phases, except Phases 2 and 3 in the northern property where it takes third place after cattle and pig. This picture of sheep dominance is seen in the contemporary contexts at Bartholomew Street (Coy n.d.2) and in some of the Late Saxon and 12th Century contexts at Western Suburbs, Winchester, (Coy n.d.3).

The degree to which meat-bearing bones of sheep are important mirrors almost exactly the results already discussed for cattle with a general increase in bones of the meat-bearing parts of the carcase through time (Table A51).

The measurement archive divides the sheep and goat bones into periods in order to provide comparable samples for medieval and post-medieval divisions (Table A48) and appears to show for the metapodials a suspicion of a size decrease with time between the two. This fits the picture at medieval Southampton (Bourdillon, personal communication). The 10th -11th Century bones produce very few sheep measurements but what material there is from this and the earliest Cheap Street phases is sometimes above average for the site.

Withers heights for the Medieval Period range from 0.42 to

0.61m (n=7); 15th to 17th Century examples from 0.42 to 0.59 (n=15); and 17th to 18th Century examples from 0.42 to 0.60 (n=31). There really is no evidence from these measurements of any breed improvement in the 17th-18th Century sample as was suggested by the recent study of Post-medieval material from Wickham Glebe (Coy n.d.4) where the withers height range for Period III was 0.52 - 0.72m (n=115).

Overall for Newbury there are only a dozen measurable sheep horn cores in the Medieval Period. Half of these are male and half female. The Cheap Street horn core fragments, however, are mostly from males. One reason for this may be the development of breeds of sheep in which the female at least is hornless and there is a frontal bone with vestigial horns as early as Phase 1a and a definite hornless cranium in Phase 3. There is evidence of working on some of the horn cores in all phases.

The number of lamb bones is virtually negligible except for the presence of 15 fragments in Phase 1, including a partial skeleton in Context 1278, Phase 1a. There are only 100 ovicaprid jaws from Newbury for which a Grant wear stage can be assessed. Most of these are of mature sheep with all three molars in wear (wear stage 30+) and there are slight peaks at 30-34 (n=18) and 36-42 (n=23) with an additional 15 jaws which could belong to either group. There is no apparent difference in emphasis between the different Newbury periods.

Goat

Only 8 goat bones were recorded for Cheap Street showing that goats is even less well-represented than at Bartholomew Street. It is only present in Phases 1a, 1b, 1c and 2 (southern property). All the remains, as for Bartholomew Street are of horn core despite a careful search for goat post-cranial remains. Some bore drilling or sawing marks. All the cores in Phase 1 are from females, the one in Phase 2 is a male horn core.

Pig

Pig remains, as explained, take third place apart from Phase 2 and Phase 3 in the southern property where they are more numerous than remains of sheep. There is slight confirmation for the local pig-keeping, suggested for Bartholomew Street, in the find of a tibia in Context 878 (Phase 1c midden) with a pathological lump distally. It has been tentatively suggested elsewhere that this might be evidence of tethering in pigs (Bourdillon & Coy 1980). Two cases of pathological proximal metatarsals were also found at Newbury. On the whole pigs are less well-represented at Cheap Street than at Bartholomew Street.

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The measurements are so few that they present a somewhat variable picture but there are no bones which show any evidence of having come from wild boar, unlike early medieval Winchester Western Suburbs where this was suggested (Coy n.d.3). There is a quite clear increase in size, however, in the 17-18th Century material, presumably from some improvement in pig husbandry or through cross-breeding. The evidence from Newbury from this period is therefore important as it enables us to know what these later animals were like so that it is easier to recognize intrusive material of this, date on excavations and distinguish it from wild boar. There is a little evidence for piglet in all phases, some of it of newborns or foetuses, which supports the theory of homebased rearing of pigs. Only 17 jaws at Newbury could be used for Grant wear stage assessments and only 5 of these had all three molars in wear (stage 28+).

Other Mammalian Species

Full details of all other mammalian bones apart from microfauna are given in Tables A13-A22 and A43 for the scan. Table 3 in text gives an overall summary of all vertebrate remains, including microfauna, which were identified in addition to the common ungulates in each phase.

Deer

Remains of these species are very scarce and are mostly of antler and foot bones although one or two post cranial bones were found for each. There are 12 finds of the native red deer, one of roe, and 5 of the fallow deer, which is thought to have been introduced in the Medieval Period. The fragment of fallow deer antler in Phase 1a, Context 1227, is from a poor specimen of shed antler and at this early date is an interesting record for Wessex.

Rabbit and Hare

Remains of rabbit, are present from the Phase 1c midden onwards but are only numerous in Phase 4. A very few bones of the brown hare, are in Phases 1, 3 and 4, the last from a half-grown hare.

Domestic Dog and Cat

Even though there are more dog bones at Cheap Street than at Bartholomew Street it is still true to say that the major evidence for their presence is the high incidence of dog-chewed bones. The incidence of dog-gnawed bones is 14-16% in the later periods but in Phase 1 is 23% (Table A53).

The very few measurable dog remains are from quite small dogs, certainly not larger than a 10kg (well fed) small

specimen in the modern collections that had in life a shoulder height of 0.4m. There are a few bones from immature animals.

Most of the cat bones are from skeletally immature animals. Those in Context 1106, Phase 1b, represent a partial skeleton. The sizes are variable with a very small bone indeed in Pit 1342, Phase 1a and a good size radius in Context 610, Phase 4, as large as that from a large modern tomcat.

Ferret

There is a partial skeleton of a domestic ferret in a garden soil pit (scan, Layer 333). This may be modern.

TABLE 3

OCCURRENCE OF OTHER VERTEBRATE SPECIES BY PHASE

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					phas	е					
	1a	1b	1u	1c	2s	2n	3s	3n	4s	4n	scan
Red deer, <u>Cervus elaphus</u> Fallow deer, <u>Dama dama</u> Roe deer, <u>Capreolus Capreolus</u> Rabbit, <u>Oryctolagus cuniculus</u> Brown hare, <u>Lepus Capensis</u> Domestic dog Domestic cat Small rodents	1 - - 1 3 1	2 - 1 - 2 6 s	1 - - 1 1 1 1 1	1 - 1 1 2		1 1 - 5 - 1	1 - 5 2 - 5	- - 7 - 1 2	3 3 13 1 1 1	1 16 -2 3 -	2 5 17 2 10 2
Ferret, <u>Mustela</u> <u>pubrius</u> sp.	43	-	-	-	-	-	-		-	-	15
Domestic fowl Peacock, <u>Pavo Cristatus</u> Domestic goose Domestic duck D.d/mallard, <u>Anas platyrhynchos</u> Teal, <u>Anas Crecca</u> Cormorant, <u>Phalacrocorax Carbo</u> Moorhen, <u>Gallinula Chloropus</u> Woodcock, <u>Scolopax rusticola</u> Pigeons, <u>Columba</u> sp. Jackdaw, <u>Corvus monedula</u> Crow/rook, <u>C. Corone/frugilegus</u> Raven, <u>Corvus Corax</u> Thrushes, <u>Turdus</u> sp. Unidentified bird bones	11 	7 5 1 - - - 1 1 0	5 7s	22 8 - - - - - 5	13 4 1 4	24 	23	35 11 2 1 1 - - 7 - 7 - 16	31 	49 29 3 1 1 - - 1 9	38 1 15 1 - 1 - 3 - 2
Frog, <u>Rana</u> sp. Toad, <u>Bufo</u> sp. Frog/Toad	1 6 -	5 - 4		30s - -	-				1 -	-	- - 2
Shark sp. Spurdog, <u>Squalus acanthias</u> Freshwater species Salmonid, <u>Salmo</u> sp. Common eel, <u>Anquilla anquilla</u> Conger eel, <u>Conger conger</u> Herring, <u>Clupea harengus</u> Haddock, <u>Melanogrammus aeglefinus</u> Cod, <u>Gaduus morhua</u> Ling, <u>Molva molva</u> Hake, <u>Merluccius merluccius</u> Cod family, <u>Gadidae</u> Gurnard, <u>Triglidae</u> Pleuronectidae e.g. plaice Unidentified fish bones			1					- - 1 - 1 - 1 - 2 - 4 3	- - - 1 - 1 - - 1 1 - -	- $ -$	- 1 3 21 1 - 3 1 4

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s denotes a whole skeleton

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Domestic Birds

The details of all bird bones are in Tables A23-A32 and A44 for the scan. An outline is in Table 3 in the text.

Domestic fowl provides most of the bird bones in all phases and, apart from a partial skeleton in Context 1033, Phase 1b?, these are generally remains of food and represent all parts of the body. There are also a few bones from immature birds in each phase, possibly an indication that this species, like the pigs, was bred on the premises and that these were premature deaths. There are enough measurements to justify a measurement archive for Newbury (Table A50). This shows a general trend towards larger sizes as the Medieval Period progresses. There is at least one example of a possible capon.

Large domestic geese are also represented in all Phases apart from Phase 1a. Again remains were from all parts of the body and look like food remains.

A tibiotarsus of peacock may have been modern coming from the garden soil scan Context 364.

By Phase 3 there is some duck anatomically recognizable as domestic.

Eggshell was found in Contexts 1049 (Phase 1b) and 610 (Phase 4). From its size and consistency it is likely to have been from domestic fowl and this will form a useful sample for future analysis if time and funds allow. It has been shown by Keepax that examination of shell criteria by electron microscopy may lead to specific identification (Keepax 1981).

<u>Wild</u> Birds

Birds are much less well-represented at Cheap Street than at Bartholomew Street, although Table 3 suggests there is a wider range of species. As the table shows though much of this diversity is in the later phases of the site and overall vertebrate species diversity is really no greater, phase by phase, at Cheap Street, except in Phase 4 northern property, which has the maximum species diversity for Newbury at 24 species (Table A52). Full details of the bird bones are in archive (Tables A23-A32 and A44 for the scan).

There is a very small amount of material from mallard and teal. A single find each of moorhen and woodcock makes up the total of likely wild birds taken or bought for the pot. This disappointing total again suggests no great wealth in these deposits if wealth is linked with dietary variety as it seems to be sometimes in the Wessex towns. A humerus of cormorant in Context 306, Phase 4, may seem surprising as nowadays this bird is rarely even seen up rivers but in the past it was often treenesting and far more widespread (Cramp 1977, 202)

Jackdaw, a common associate of buildings and also found at Bartholomew Street, is present in Phase 3 as a partial skeleton in Context 841. As this is a sandy layer above hearths it seems likely that it was associated with a chimney. The raven and crow are also found in this phase, both in Context 421, and may be a sign that backyard husbandry was taking place and attracting predators.

There is a single example of wood pigeon, <u>Columba palumbus</u>, in Context 464, Phase 4, and, unlike Bartholomew Street, no domestic pigeon at all until bones appear in the garden soil scan. A single thrush family bone makes up the total bird count. Most of the unidentifiable bird bones are probably fragments of domestic fowl. Anything in the least identifiable was studied carefully in order not to miss any evidence for a wider range of species.

Fish

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Full details of the fish finds are given in Archive (Tables A33-A41 and A45 for the scan) and an outline in the text in Table 3. The species list for Cheap Street is as extensive as the one for Bartholomew Street. As there the only remains of common eel and herring come from the sieved samples. In addition there is a shark tooth and further remains of flatfish from sieving.

Phase 1 produced herring evidence from sieving in three contexts - 1354 (1a), 1141 (1c), and 564 (1b) - and common eel from 1354. These contexts might therefore have contained cess at some point. Common eel also comes from the sieving of Context 554 (1b?) where fish of about 300g and 500g are represented. Remains of gadoids include a cod of about 2kg from Context 1074, Phase 1c, and a hake of at least 2kg from Context 1060 (1c). These rough weights are given by comparison with weighed modern fish and should only be regarded as very approximate. The shark tooth is from Context 938 (1b).

Apart from herring which was probably eaten in preserved form even in Saxon times there is therefore no certain evidence of sea fish until Phase 3. The later phases do not contain any eel or herring evidence until sievings from the undated garden soil again produce both species, perhaps again from cess.

Phase 2 samples contained only 1 unidentifiable fish bone. Phase 3, Context 558, produced a spur of the spurdog, a common species of small shark; and Context 515 several fragments of large cod, one of them a butchered cleithrum. The last points to the removal of the head or even that the bone came from preserved cod - stockfish. Context 636 produced a fragment of another large gadoid - ling - and Context 611 another large gadoid cleithrum fragment. Conger eel was identified from Context 747 and flounder, <u>Platichthys flesus</u>, from 841. Phase 4 produced the widest range of species with evidence

Phase 4 produced the widest range of species with evidence of salmon, haddock, and plaice, <u>Pleuronectes platessa</u>, in Context 610. A butchered cleithrum from a conger of at least 3kg is from Context 198. In Context 607 a small articulated fish tail was not identifiable to species. This had been found during normal recovery and had a small find number (368) showing how good the recovery at Newbury was.

The garden soil scan produced remains of gurnard and the only find of a true freshwater fish, a fragment of Weberian vertebral apparatus which was not identifiable to species.

This is not an unimpressive list of marine species considering how far Newbury is from the sea. The widespread use of marine fish in the medieval diet is something that has been commented on elsewhere (Coy 1982). It is possible that the large gadoid remains were from preserved fish and the eel and herring found in Phase 1 could also have been preserved. They are frequently eaten so in the rest of Europe today.

Marine Shellfish

The incidence of marine mollusc shells is given in Table 1. Most of the finds are of the common oyster, <u>Ostrea edulis</u>, which is present in all phases at Cheap Street. The greatest concentration of these is a deposit in Context 935, Phase 2, which consists of 35 upper and 40 lower valves. Remains of the common edible winkle, <u>Littorina littorea</u>, are from Context 1354 (Phase 1a), Context 1101 (Phase 1b), and Context 364 (Phase 4). There are traces of mussel, which does not preserve well, in Context 879 (Phase 2), Context 636 (Phase 3), and the fishy context in Phase 4 - Context 610. The common whelk, <u>Buccinum</u> <u>undatum</u>, is from Context 636 with the find of winkle and in Context 622, Phase 4.

SMALL MAMMALS AND AMPHIBIANS

There are only two occurrences of small rodent remains from sieving - in Context 1354, Phase 1a, and Context 1095, Phase 1b?.

Amphibian remains found are shown in Table 3. Probably those represented are the two most common species - <u>Rana</u> <u>temporaria</u> and <u>Bufo</u> <u>bufo</u>, respectively. These are common species and along with the rodent remains are most useful as an indicator of pit layers which were left exposed and acted as a pitfall trap for these small animals. The amphibian remains might under some circumstances though indicate damp places where the animals had buried themselves in mud.

CONTEXTUAL DISCUSSIONS

Phase 1 12th -14th Century A.D.

Results for Phase 1a, 1b, and 1c are remarkably similar in terms of animal bone criteria. For example, 92-94% of fragments are from the common domestic ungulates, all three are roughly parallel in terms of the representation of meat-bearing bones, and the species diversity and representation of wild species are almost exactly the same (Tables 1, 2, and A51).

The 'midden' (1c) does, however, show more of a stress on cattle, and in some ways is transitional between 1a+b and the unstratified material called throughout this report 1b?. The extent to which this may be a taphonomic problem and be related to fragmentation could be investigated in more detail if this is relevant to the archaeology but will be left for now. As the sample from 1b? is much smaller than the others it is also likely that this may have Caused some of the bias.

Because of the above it seems reasonable to add the figures obtained from the different divisions of Phase 1 for some of the analyses.

In Phase 1a Context 1342/3 provides one of the few pit

assemblages for the site and might repay further comparative study with material from other phases and from Bartholomew Street. The only other context in 1a with any quantity of bones is 1145 with 160 bones from all parts of the common species.

Apart from a partial burial of a 2 year old horse in 1226, 1b does not have any specialised or large bone deposits. In Phase 1c, the midden, Contexts 878 and 1074, which both have good collections of bones, are biassed towards cattle, especially peripheral remains, compared with the rest of the phase and they contribute to the higher value for cattle which 1c has over 1a and 1b. Context 878 includes a small collection of cattle horn cores. Context 1152 has a good collection of bone with no particular bias.

Already by Phase 1a median butchery is present in cattle, sheep and pig (some of it very off-centre), although some examples of paramedian butchery in the latter occurred in 1131 and 1145 (Coy n.d.2 and 3). There is a high density of butchery marks on the material with some lengthwise splitting of long bones.

Most examples of axial butchery in Phase 1b are median but one sheep example is possibly either very off-centre or meant to be paramedian. Phase 1c shows only median butchery apart from a pig lumber vertebra with paramedian butchery (with blademarks) on both sides.

The bones from Phase 1a are very different from those in Phase 1b and c and a closer analysis of the recorded details of, for example butchery, could be used to analyse them in more depth. Those from 1b and 1c are not so uniform in their cultural indicators as would be expected from the suggested wide date span.

"Unstratified" Phase 1

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The 1b? results are, as mentioned above, somewhat different. The bird figures are inflated by a partial skeleton of a fowl and if this is scored as one fragment the ungulate fraction comes out at almost exactly that for the rest of Phase 1 (Table 1).

But the figures within the large ungulate fraction are not quite the same. There is more stress on cattle in Phase 1b? material. It also has a remarkably low value for small ungulate fragments. Its large ungulate:small ungulate fragment ratio is 1:0.8 compared with 1:2.7 for the rest of 1b (Table A46). This might be an indicator of redeposition where the small bones would be less likely to be carried along.

This emphasis on larger fragments is reinforced by the low value for splinters in 1b? (13% compared with 22% for the whole of the rest of Phase 1) and the far greater percentage of bones in 1b? that are at least half a bone (38% compared with 21% for the rest of the phase). A number of these figures are given in the archive in Table A53. Better survival of cattle bones would only be likely as a major factor if the bones from this collection showed a greater degree of dog-gnawing and/or erosion than the rest of Phase 1.

In fact they don't. The results for gnawing, ivorying and erosion come out at exactly the same for 1b? as for the rest of Phase 1 at 23%, 9% and 2% respectively (Table A53). This value for gnawing incidentally is higher than for any Newbury phase except Bartholomew Street Period 1 (10th - 11th Century A.D.). The emphasis on large fragments then, if it is not just a bias due to the small sample, begins to look like the result of their exclusion on deposition: there seems to be no evidence that the small bones have disappeared from the soil.

<u>Phase 2 Mid 14th - Second Quarter 15th C</u>

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The sample of bones from Phase 2 is small. The bones show more ivorying than in Phase 1 but not quite as much as in the subsequent phases. The bones tend to be more readily identified than those in Phase 1 and more of them fall into the domestic group (Tables A46, A53).

Attempts were made to examine the various subdivisions of the phase separately, including those from the two properties, to see whether any contrasts could be drawn but there is no significance in most of the subdivisions as samples are too small. Some of the overall values such as specific ratios and ungulate fragmentation results are different for the two properties and they have therefore been left separate in many tables.

This phase is the one which provides the highest values for cattle bones (56-57% of identifiable ungulate bones). Context 935 produced a few horn cores and a concentration of calf bones. The latter were not obviously butchered and it is possible that calf remains could always be a sign that calf skin was being exploited although there is no reason why both skin and meat would not have been used. These small concentrations of bones which could be linked with non-meat uses of cattle may indicate small-scale useage of these materials. Certainly there are no deposits found so far in Newbury which are large enough to be termed 'industrial'.

Deposits in Contexts 755 and 782 were noted to be so similar in staining and the individual animals represented that they may have been deposited together: the pig bones in the two deposits may represent the same individual.

There is a suggestion from the very few measurements from this phase that pig and fowl are larger in size than those from the previous phase and that butchery was more precise.

<u>Period 3 c.1430 - early 17th C</u>

As for Phase 2 the figures for the two properties showed enough differences for them to be kept apart in tables. An additional divergence is the higher proportion of bird bones in the southern property which skews the proportion of ungulate bones in the total to the unusually low value of 74%, compared with 86-94% for other deposits (Table 1).

A higher proportion of bones in this phase are ivoried and bones are overall more whole with both a higher proportion of fragments at least half a bone and fewer small splinters (Table 53).

The only context of any size, 515, contained a high proportion of calf bones. Calf vertebrae are medially split. It also contains the only example from the site of a truly hornless sheep.

Period 3 produced a number of changes. Cattle measurements

tend to be larger than those in the previous phases and the types of animal often looked slightly different anatomically. A sheep metapodial in 509 is very like others found in 16th Century deposits in Wessex with a stouter midshaft and flattened back, often superficially goatlike.

Butchery gives an overall impression of being more precise, perhaps more professional ? There are some individual types which have been noted in post-medieval deposits from other sites and might indicate at least a late medieval date: in Contexts 482, 624, and 623. There is a higher incidence than earlier of axial cuts through cattle mature long bones. Precise axial halving of the carcase is the rule.

Period 4 17th and 18th Century

These bones provide an important reference collection from the late period and will not be discussed in detail here. The types of butchery seen fit the late post-medieval picture and the computer coded details of this butchery will help to sort out 17th and 18th Century contamination in other Wessex sites.

The biggest sample is from Context 610. Bones in this backfill deposit seem very uniform in preservation and are often very well-preserved as if they had been buried swiftly and deeply. Butchery marks are not visible on most of the cattle and sheep foot bones but butchery on cattle distal femora is uniform, again suggesting contemporaneous deposition. The cattle bones showed signs associated with heavy useage of the animals and might be the remains of animals used for ploughing or traction.

The "Garden Soil" Scan

The mixed nature of these deposits is certainly confirmed by the butchery which includes some types seen from other sites in Wessex in the early Medieval Period and some usually linked with post-medieval material. Although this method of comparative butchery typing between sites is only in its infancy, as the medieval and post-medieval programme at FRU has only been running for 2 years, it has been a useful exercise to computer record the butchery for a few finds from the scan for future reference and all the bones have been saved.

Closer analysis of the butchery could probably augment the pottery evidence to give an opinion on the date of some individual contexts if this was needed.

One observation from the scan is that there are more pathological and dental anomalies in the scanned material but the significance of this is not clear.

There are differences between the different Garden Soil contexts that have been recorded in the manual archive. For example, Context 481 contains what appears to be a fairly intact primary deposit of cattle and sheep bones and parts of a piglet as there is evidence of associated bones of a pig's trotter, cattle heel, piglet foot, and paired sheep jaws. The bones are big and probably later than Phase 4. Context 289 on the other hand fits Phase 4 quite well from the bones. Context 406 looks very mixed from the bones. Context 374 does not look particularly modern from the bones although there are one or two bones, including a butchered scapula which could be.

CONCLUSIONS

This contains some comments of importance to Newbury as a whole as well as the conclusions for Cheap Street.

The somewhat tedious questioning by the writer of the excavators at all stages of the excavations has made it possible to use the bone fragments as a tool for assessing change in the nature of deposits in this continuously occupied small town. has also allowed the less firmly dated material to be excluded from the detailed analysis although this has been assessed using a scanning technique.

The Newbury results because of the continuity of occupation are interesting for the archaeozoology of Wessex and the material shows some parallels to material from Winchester Western Suburbs recently studied by the author and will provide a contrast when the bulk of the Winchester material is published by the Winchester Research Unit.

There is a hint here of size changes parallel to those note) (d.

by Bourdillon at Southampton (Bourdillon 1979) with the very small medieval cattle increasing in size at the end of the Medieval Period into post-medieval times but the size of sheep continuing to fall throughout the Medieval Period. There even appears to be no evidence here of 17th/18th Century sheep improvements as found recently at Wickham Glebe.

These are sites where the usual index used by the writer to assess fragmentation - the index of identifiability - as used for material at Winchester - does not show up the extreme fragmentation in some contexts. This is shown up, however, by an assessment of the proportion of fragments that are small shaft - splinters rather than cylinders. fragments Since this aspect is recorded for all sites studied at FRU in the fragmentation field comparative figures could be obtained for other sites in any future Comparative analysis. Small fragments from sieving are excluded from this fragmentation analysis for obvious reasons.

Despite this the bones from Newbury are on the whole very well-preserved with 71-82% of the ungulate bones being identifiable to at least anatomical element. This is a much higher value than for other medieval Wessex sites studied recently and seems to be a genuine figure as retrieval of small fragments on site was good.

Bones from Cheap Street are even more heavily gnawed than those from Bartholomew Street and this high value on both sites is the best indicator we have for the presence of dogs in all phases.

The interesting insight into the proportion of meat-bearing bones in the various deposits would repay further study but would be too time-consuming to justify at present. Bartholomew Street is certainly somewhat different from Cheap Street in this respect in the Medieval Period, both for sheep and cattle, suggesting that we are dealing with quite different types of waste.

But in the later phases both sites show the expected high value for meat bones suggesting that dressed carcases and butchers' meat was the major source of beef and mutton.

The intensive sieving programmes, although they produced extra work at some stages, were essential for the assessment of the role of fish in the diet. Overall though the exploitation of wild species at Newbury was much lower than at some other Wessex locations at this date. It was marginally lower at Cheap Street This may be a genuine reflection of than at Bartholomew Street. the standard of living and it may be possible to use this in comparisons in future between the Wessex towns.

ACKNOWLEDGEMENTS

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Thanks are due to colleagues Mark Maltby and Jennifer Bourdillon for useful discussion and access to all their unpublished work; to Graham Cowles and Alwyne Wheeler for advice on bird and fish problems; and to the Trustees of the British Museum (Natural History) for access to the collections.

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A1 Layers with animal remains studied A2 Bones kept out for further study and their locations A3 Common domestic ungulates in Phase 1A A4 Common domestic ungulates in Phase 1B Α5 Common domestic ungulates in Phase unstratified Phase 1 Aб Common domestic ungulates in Phase 1C Α7 Common domestic ungulates in Phase 2 Southern Property A8 Common domestic ungulates in Phase 2 Northern Property Common domestic ungulates in Phase 3 Southern Property A9 A10 Common domestic ungulates in Phase 3 Northern Property A11 Common domestic ungulates in Phase 4 Southern Property A12 Common domestic ungulates in Phase 4 Northern Property Key to other species A13 Other mammalian remains Phase 1A A14 Other mammalian remains Phase 1B A15 Other mammalian remains unstratified Phase 1 A16 Other mammalian remains Phase 1C Other mammalian remains Phase 2 Southern Property A17 A18 Other mammalian remains Phase 2 Northern Property A19 Other mammalian remains Phase 3 Southern Property A20 Other mammalian remains Phase 3 Northern Property A21 Other mammalian remains Phase 4 Southern Property A22 Other mammalian remains Phase 4 Northern Property A23 Bird bones Phase 1A A24 Bird bones Phase 1B A25 Bird bones unstratified Phase 1 A26 Bird bones Phase 1C A27 Bird bones Phase 2 Southern Property Bird bones Phase 2 Northern Property A28 A29 Bird bones Phase 3 Southern Property A30 Bird bones Phase 3 Northern Property Bird bones Phase 4 Southern Property A31 A32 Bird bones Phase 4 Northern Property A33 Fish bones Phase 1A A34 Fish bones Phase 1B A35 Fish bones unstratified Phase 1 A36 Fish bones Phase 1C A37 Fish bones Phase 2 Northern Property A38 Fish bones Phase 3 Southern Property A39 Fish bones Phase 3 Northern Property A40 Fish bones Phase 4 Southern Property A41 Fish bones Phase 4 Northern Property A42 Common domestic ungulates Garden Soil Scan A43 Other mammalian remains Garden Soil Scan A44 Bird bones Garden Soil Scan A45 Fish bones Garden Soil Scan A46 Large ungulate/ small ungulate ratios NEWBURY MEASUREMENT CATALOGUE - ALL SITES A47 Cattle bone measurements A48 Sheep/goat bone measurements A49 Pig bone measurements A50 Domestic fowl measurements A51 Meat- bearing bone cattle and sheep A52 Species diversity by period A53 Fragmentation and preservation A54 Archival material and its location

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TABLE A1	LAYERS	WITH ANIMAL REMAINS STUDIED (Layers underlined - sieved)
phase	date	layers
Phase 1A	12th C AD	<u>1094</u> ,1142, <u>1145</u> ,1227,1239,1254,1278,1284,1307,1311, <u>1334</u> , <u>1338</u> , <u>1340</u> <u>1342</u> ,1343,1345,1347, <u>1354</u> , <u>1357</u> ,1359,1363,1373,1375,1377,1379,1381,1385
Phase 1B	12 - 14th	$\frac{893}{1155}, \frac{897}{1159}, 1009, 1009, 1011, 1049, 1065, 1080, 1101, 1106, 1124, 1137, 1143, 1147, 1155, 1159, 1160, 1161, 1162, 1164, 1165, 1167, 1168, 1169, 1176, 1178, 1179, 1185, 1186, 1189, 1201, 1203, 1226, 1229, 1233, 1237, 1243, 1246, 1253, 1255, 1261, 1266, 1268, 1273, 1274, 1283, 1288, 1290, 1294, 1298, 1302, 1304, 1306, 1321, 1327, 1330, 1331, 1333, 1351, 1361, 1370, 1372, 1388$
Phase 1B?	"unstrat"	$\frac{499,554,555,564,687,692,696,700,720,749,758,762,767,811,825,833,865,869}{938,939,942,949,951,983,988,1031,1033,1034,1035,1038,1043,1044,1052,1095}{1129,1131,1136,1153}$
Phase 1C	"midden"	803,823,829,848,878,924,954,996,1059,1060,1061,1063,1074, <u>1096,1103,1110</u> 1112,1113,1114,1120,1121,1126,1127,1133, <u>1141</u> ,1152, <u>1157</u> , <u>1193</u> ,1317
S phase 2	14th-15th	616,617,631,633,635,665,669,672,673,685,711,716,718,771,786,793,798,802 806,816,879,880,881,882,885,890, <u>912</u> ,914,922,931,934, <u>936,991,992,993,994</u> <u>99</u> 5,997,1021, <u>1041</u>
N phase 2	11 11	751,754,755, <u>775</u> ,781,782,838,839,883,911, <u>935,943</u> ,979,1018, <u>1051</u> ,1092,1108
S phase 3	15th-17th	463,482,507,509,515,558,569,582,583, <u>587</u> ,590,621,624,626,630,632, <u>653</u> ,655 656,658,710,717,819,886
N phase 3	11 II	611,623,628, <u>636</u> ,640,663,664,682,715,728,730,735,736,744,747,822,831,835 836,841,845,875
S phase 4	17th & 18th	66,134,152,197,198,200,201,300,325,329,404,410,440,441,442,445,452,464 500,525,530,586,620,826
N phase 4	11 Tř	305,306,312,313,319,364,400,421,425,427,431,435,447,458,459,484,506,545 604,605,607,608,610,622,645,724
Boundary Wa	all	948,955,956
Garden Soil	l Scan	125,185,188,189,284,289,333,335,338,339,347,354,365,374,377,386,390,391 405,406,430,466,468,469,470,478,481,489,498,502,503,504,514,517,518,519 521,522,524,532,534,537,552,574,600,601,603,618,698

spec. no.layerdescriptionlocation11255goat horn core, evidence of workingTWA21145red deer antler""31155pig metapod, pathological for photoFRU41074cattle phalanx""51152"""61152"""7partial skeleton bird not kept out88885worked blank SAR long bone fragmentTWA9610typical calf scapula for photoFRU10610cattle metatarsus, path for photoFRU11610cattle foot bones""12?fowl femur, path for photoFRU13605pig fibula, workedTWA1466red deer antler, workedTWA15152?duck t/t for checking at BMFRU16410cattle metapod, polishedTWA17374possible peacock for check at BMFRU18374"""19284sheep scapula, path for photoFRU216102 fish bones for check at BMFRU22198fish bone for checking ""		TABLE A2	BONE	S KEPT OUT FOR FURTHER STUDY AND THEIR	LOCATIONS
11255goat horn core, evidence of workingTWA21145red deer antler""TWA31155pig metapod, pathological for photoFRU41074cattle phalanx"""51152"""""61152"""""7partial skeleton bird not kept out885worked blank SAR long bone fragmentTWA9610typical calf scapula for photoFRU10610cattle metatarsus, path for photoFRU11610cattle foot bones"""13605pig fibula, workedTWA1466red deer antler, workedTWA15152?duck t/t for checking at BMFRU16410cattle metapod, polishedTWA17374possible peacock for check at BMFRU18374""""19284sheep scapula, path for photoFRU20521fish vortebrae? for BMFRU216102 fish bones for check at BMFRU22198fish bone for checking ""		spec. no.	layer	description	location
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41074Cattle phalanxFRU51152""""""FRU61152""""""FRU7partial skeleton bird not kept out8885885worked blank SAR long bone fragmentTWA9610typical calf scapula for photoFRU10610cattle metatarsus, path for photoFRU11610cattle foot bones""""FRU12?fowl femur, path for photoFRU13605pig fibula, workedTWA1466red deer antler, workedTWA15152?duck t/t for checking at BMFRU16410cattle metapod, polishedTWA17374possible peacock for check at BMFRU18374""""""""""FRU19284sheep scapula, path for photoFRU20521fish vertebrae? for BMFRU216102 fish bones for check at BMFRU22198fish bone for checking """FRU		2 3	1145	pig metapod, pathological for photo	TWA FRU FRU
7partial skeleton bird not kept outFRO8885worked blank SAR long bone fragmentTWA9610typical calf scapula for photoFRU10610cattle metatarsus, path for photoFRU11610cattle foot bones""12?fowl femur, path for photoFRU13605pig fibula, workedTWA1466red deer antler, workedTWA15152?duck t/t for checking at BMFRU16410cattle metapod, polishedTWA17374possible peacock for check at BMFRU18374"""19284sheep scapula, path for photoFRU20521fish vertebrae? for BMFRU216102 fish bones for check at BMFRU22198fish bone for checking ""		4 5 6	1074 1152 1152		FRU
o385Worked Blank SAR long bone fragmentTWA9610typical calf scapula for photoFRU10610cattle metatarsus, path for photoFRU11610cattle foot bones""12?fowl femur, path for photoFRU13605pig fibula, workedTWA1466red deer antler, workedTWA15152?duck t/t for checking at BMFRU16410cattle metapod, polishedTWA18374"""19284sheep scapula, path for photoFRU20521fish vertebrae? for BMFRU216102fish bones for check at BMFRU22198fish bone for checking ""		7	partial	skeleton bird not kept out	F KU
10610Cattle metatarsus, path for photoFR011610cattle foot bones"""""FRU12?fowl femur, path for photoFRU13605pig fibula, workedTWA1466red deer antler, workedTWA15152?duck t/t for checking at BMFRU16410cattle metapod, polishedTWA17374possible peacock for check at BMFRU18374"""""""""""19284sheep scapula, path for photoFRU20521fish vertebrae? for BMFRU216102 fish bones for check at BMFRU22198fish bone for checking ""FRU		9	610	typical calf scapula for photo	FRU
12?fowl femur, path for photoFRU13605pig fibula, workedTWA1466red deer antler, workedTWA15152?duck t/t for checking at BMFRU16410cattle metapod, polishedTWA17374possible peacock for check at BMFRU18374"""19284sheep scapula, path for photoFRU20521fish vertebrae? for BMFRU216102 fish bones for check at BMFRU22198fish bone for checking ""		11	610	Cattle metatarsus, path for photo Cattle foot bones """"	FRU
1466red deer antler, workedTWA15152?duck t/t for checking at BMFRU16410cattle metapod, polishedTWA17374possible peacock for check at BMFRU18374" " " " " " " " " " " " " " " " " " "	l	12 13	2 605	fowl femur, path for photo pig fibula, worked	FRU TWA
16410cattle metapod, polishedTWA17374possible peacock for check at BMFRU18374" " " " " " " " " " FRU19284sheep scapula, path for photoFRU20521fish vertebrae? for BMFRU216102 fish bones for check at BMFRU22198fish bone for checking " " FRU		14 15	66 152	red deer antler, worked ?duck t/t for checking at BM	TWA FRU
18374FRU19284sheep scapula, path for photoFRU20521fish vertebrae? for BMFRU216102 fish bones for check at BMFRU22198fish bone for checking " " FRU		16 17	410 374	cattle metapod, polished possible peacock for check at BM	TWA FRU
216102 fish bones for check at BMFRU22198fish bone for checking " " FRU		18 19 20	374 284 521	sheep scapula, path for photo fish vertebrae? for BM	FRU FRU FRU
		21 22	610 198	2 fish bones for check at BM fish bone for checking " "	FRU FRU

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Other bones of note kept out

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558	spur of spurdog		TWA
1304	small human foetus		TWA
421	bone object		TWA
586	worked fallow antler	$\wedge \wedge \wedge$	TWA
bones with small	find numbers	(368 (381) A44)	TWA

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	horse	cattle	sheep	goat	pig	c-size	s-size	TOTAL
horn core	***	1	16	2	~	***	-	19
Cranium	-	5	22	-	4	5	7	43
hyoid		1	1		-	-	1	3
maxilla	1	-	4	-	1	-	-	6
mandible	-	7	18	-	10	3		38
rtebra	-	5	16	-	4	6	4	35
rib	1	7	5	4224	-	25	58	96
sternum	-	~	-	-	-	-	-	0
sCapula	-	6	10	-	4	3	4	27
humerus	-	-	5	-	2	1	-	8
radius	-	5	15	-	2	-	-	22
ulna		1	2	_	3	-	-	6
pelvis	-	4	4	-	1	2	-	11
femur	-	2	3	-	1	-	_	6
patella	-	-	_	-	-	-	-	0
''bia	-	1	8	-	1	-	-	10
fibula		1	~	***	-		-63	1
carpal/tarsal	1	4	5	-	1	-	-	11
metapodial	1	15	28	-	4		-	48
phalanx	1	14	10	-	2	1	-	28
loose teeth	14	14	29		12	-	-	69
l.b.fragments		2	_	-	-	45	82	129
fragments	-	1	-	-	-	26	31	58
TOTAL	19	96	201	2	52	117	187	674

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TABLE A4 COMMON DOMESTIC UNGULATES PHASE 1B

	horse	cattle	sheep	goat	pig	c-size	s-size	TOTAL
_								
horn core	-	3	2	3	-		-	8
Cranium	1	6	22	-	4	6	7	46
hyoid	-		2		-			2
maxilla	-	1	2	-	1	-	-	4
mandible	-	7	13	-	7	-	-	27
vertebra	23	6	9	-	1	8	3	50
rib	6	11	7	-	2	10	48	84
sternum	-	-	-	-	1	-	-	1
scapula	-	4	1	-	2	1	3	11
humerus	1	2	6	-	2	2	-	13
radius		1	9	-	-	-	1	1 1
ulna	-	5	2	-	3	-	-	10
pelvis	-	2	4	-	-772	_	1	7
femur	-	1	3	-	3	_	~	7
patella	-	-		_	-	-		0
:ibia	-	2	16	-	1	-	1	20
fibula	-	_		-	-	~		0
Carpal/tarsal		8	2	-	1		1	12
metapodial	-	6	26		4	-	1	37
phalanx	-	10	5	-	1	_	-	16
loose teeth	1	2	19	-	5	-	-	27
l.b.fragments	~	-	***	<u></u>	-	21	101	122
fragments	-	-	-	-	-	20	17	37
TOTAL	32	77	150	3	38	68	184	552

	cattle	sheep	pig	c-size	s-size	TOTAL
horn core	-	1	-	-	-	1
Cranium	9	1	-	1	1	12
hyoid	-		-	-	-	0
maxilla	-	2	1	-	-	3
mandible	2	2	3	-	- - -	7
vertebra	7	4	2	1	1	15
rib	5	2		4	14	25
sternum	1	-	-	-	-	1
sCapula	1	2	-	1		4
humerus	1	1	2	-	-	4
radius	2	4	1	1	-	8
ulna	1	1	-	-	-	2
pelvis	-	-			-	0
femur	3	1	-	-	-	4
patella	-	-	-	_		0
tibia	2	2	2	-	-	6
fibula	-	-	1	-		1
carpal/tarsal	1	-	1	-	-	2
metapodial	7	7	-	-	1	15
phalanx	1	1	-	-	_	2
loose teeth	2	2	1	•0	-	5
l.b.fragments	-	-	-	19	8	27
fragments	-	-	-	12	5	17
τοται	45	33	14	39	30	161

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TABLE A7 COMMON DOMESTIC UNGULATES PHASE 2 SOUTHERN PROPERTY

	horse	cattle	sheep	goat	pig	c-size	s-size	TOTAL
horn core		6	-	1	-	-	-	7
cranium	-	10	1	-	3	`2	2	18
hyoid	-	-	-	-	-	-	-	0
maxilla	-	-	-	-	1	-	-	1
mandible	-	6	2	-	4	-	-	12
vertebra	-	11	6	-	4	3	2	26
rib	-	7	5	-	-	10	26	48
sternum	-	1	-	-	-	-	-	1
scapula	-	6	-	-	1	-	1	8
humerus	-	1	2	-	3		-	6
radius	1		3	-	1	-	-	5
ulna	-	1	-	-	-	1	-	2
pelvis	-	5	2	-	-	-	-	7
femur	-	5	1	-	1	_	1	8
patella	-	-	-	-	-	-	-	0
tibia	-	7	4	-	3	-	-	14
fibula	-	-	-	-		-	-	0
carpal/tarsal	-	2	1	-	-	-		3
metapodial	-	8	8	-	1	-	1	18
phalanx	-	4	2	-	-	-	-	6
loose teeth	-	2	1	-	3		-	6
l.b.fragments	-	-	-	-	-	13	28	41
fragments	-	-	-	-	-	8	9	17
TOTAL	1	82	38	1	25	37	70	254

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TABLE A8 COMMON DOMESTIC UNGULATES PHASE 2 NORTHERN PROPERTY

horse	cattle	sheep	pig	C-size	s-size	TOTAL
-	25	-	-	-	-	25
-	21	2	3	1	1	28
-	-	-	-	-	-	0
-	1	2	1	-	-	4
-	1	4	4	-	-	9
-	8	2	11	2	2	25
-	6	9		6	26	47
-	-		-	-	-	0
_	4	-	5	-	-**	9
-	3	-	2	2		7
-	2	-		1	-	3
-	1	-	1	-	-	2
	3	-	1	-	-	4
-	2	-	1	-	-	3
-	-	-	-	-	-	0
-	10	4	3	3	-	20
-	-	-	2	-		2
1	5	-	2	-	-	8
-	6	5	4	-	-	15
1	-	-	2	-	-	3
1	-	2	1	-	-	4
-	-	-	-	11	20	31
-	-	-	-	5	3	8
3	98	30	43	31	52	257
	horse	horse cattle - 25 - 21 1 - 1 - 1 - 1 - 8 - 6 4 - 3 - 2 - 1 - 3 - 2 - 1 - 3 - 2 - 1 - 3 - 2 - 1 - 1 - 3 - 2 - 1 - 1 - 3 - 2 - 1 - 1 - 3 - 2 - 1 - 1 - 3 - 2 - 1 - 1 - 3 - 3 - 2 - 1 - 1 - 1 - 3 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1	horse cattle sheep - 25 - - 21 2 - - - - 1 2 - 1 4 - 8 2 - 1 4 - 8 2 - 6 9 - 6 9 - 4 - - 3 - - 1 - - 1 - - 10 4 - - - - 10 4 - - - 1 5 - - 6 5 1 - - 3 98 30	horse cattle sheep pig - 25 - - - 21 2 3 - - - - - 1 2 1 - 1 2 1 - 1 4 4 - 8 2 11 - 6 9 - - 4 - 5 - 3 - 2 - 1 - 1 - 2 - - - 1 - 1 - 2 - 1 - 2 - 1 - 1 - - - 10 4 3 - - - 2 1 5 - 2 1 - 2 1 - - - - 1 - 2 1 -	horse cattlesheeppig C-size $-$ 25 $ -$ 2123 $ -$ 12 $-$ 12 $-$ 14 $-$ 82 $-$ 14 $-$ 82 $-$ 69 $-$ 69 $-$ 69 $ -$	horse cattlesheeppig C-sizes-size $-$ 25 $ -$ 212311 $ -$ 121 $ -$ 121 $ -$ 144 $ -$ 12122 $-$ 69 $-$ 626 $ -$ 4 $-$ 5 $ -$ 3 $-$ 22 $ -$ 2 $ -$ 1 $ -$ 3 $-$ 1 $ -$ 1 $-$ 1 $ -$ 2 $-$ 1 $ -$ 10433 $ -$ 10433 $ -$ 102 $ -$ 121 $ -$

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TABLE A6 COMMON DOMESTIC UNGULATES PHASE 1C

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	horse	cattle	sheep	goat	pig	C-size	s-size	TOTAL
horn core	-	20	9	2	-	/ -	-	31
Cranium	-	20	16	·	11	· 23	8	78
hyoi d	-	1	2	-	-	2	-	5
maxilla	-	1	6	-	8	-	-	15
mandible	· <u>-</u>	16	36	-	9	2	-	63
vertebra	-	17	/ 13	-	6	7	3	46
rib	-	21	5	and the second s	2	28	77	133
sternum	. –	· -	-	- '	-	-	-	0
scapula	, –	12	14		3	2	1	32
humerus		11	17	-	7	5	2	42
radius /	1	19	24	-	3	1	-	48
ulna	-	4	3	-	4	. –	-	11
pelvis /		6	9	-	2		-	17
femur	-	6	11	-	3	4	3	27
patella	-	-	-	-	-	-	-	0
tibia	-	13	· 39	-	11	9	-	72
fibula	-	-	-	-	2	-	-	2
carpal/tarsal	3	15	4	-	2	<u> </u>	-	25
metapodial	17	38	55	-	6	-	- 1	100
phalanx	6	23	9	-	2	-	-	40
loose teeth	2	24	50	-	17	1	-	94
1.b.fragments	-		7	-	-	108	157	272
fragments	-	-	-	<u> </u>	-	31	24	55
				×.	•			
TOTAL	12	267	329	2	98	224	276	1208
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TABLE A9 COMMON DOMESTIC UNGULATES PHASE 3 SOUTHERN PROPERTY

	horse	cattle	sheep	pig	c-size	s-size	TOTAL
horn core	-	5	4	-	-		9
Cranium	-	16	11	8	1	-	36
hyoid		*62	-	1	-		1
maxilla	-	1	2	2	-	-	5
mandible	2	4	9	8	-	-	23
vertebra	-	30	6	4	5	-	45
rib	-	32	16	3	36	53	140
sternum	-		-	-	-	-	0
scapula	-	13	8	4	1	-	26
humerus	-	8	7	5	1	-	21
radius	-	10	9	3	1	-	23
ulna	1	6	4	4	_	-	15
pelvis	-	9	11	3	3		26
femur	-	7	6	7	1	-	21
patella	-	-	-	-	-	-	0
tibia	-	16	15	б	-	1	38
fibula	-	-	-	2	-	-	2
Carpal/tarsal	-	7	-	1		-	8
metapodial	1	15	24	9		-	49
phalanx	-	5	1	3	-	-	9
loose teeth	-	6	3	11		-	20
1.b.fragments	-	-	-	-	49	52	101
fragments	-	-	-	_	20	22	42
TOTAL	4	190	136	84	118	128	660

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TABLE A10

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COMMON DOMESTIC UNGULATES PHASE 3 NORTHERN PROPERTY

	cattle	sheep	pig	c-size	s-size	TOTAL
horn core	****		-	-		0
Cranium			2	1		3
hyoid	-	-	-	-	~	0
maxilla	1	1	-	-	-	2
mandible	3	-	2	-	****	5
vertebra	9	6	2	2	7	26
rib	10	9	5	14	52	90
sternum	-	-	-	-	2	2
sCapula	3	-	6	2		11
humerus	5	2	2	1	1	11
radius		5	1	~		6
ulna		1	3	-		4
pelvis	-	-	1	1	-	2
femur		-	1	-	1	2
patella	-	-	-	-		0
tibia	2	-	3	-		5
fibula	-	-	2	-	-	2
carpal/tarsal	4	-	3		-	7
metapodial	2	8	5	1	-	16
phalanx	ב יים		1	-		1
loose teeth	-	-	2		-	2
l.b.fragments	-	-	-	10	40	50
fragments	-	-		8	5	13
TOTAL	39	32	41	40	108	260

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TABLE A11 COMMON DOMESTIC UNGULATES PHASE 4 SOUTHERN PROPERTY

	horse	cattle	sheep	pig	c-size	s-size	TOTAL
horn core	-	1	3	•••	-	- 6 0-	4
Cranium		11	5	6	4	1	27
hyoid	-	2	-	-	-	-	2
maxilla	-	1	2	3	1	-	7
mandible	-	17	7	3	-	-	27
vertebra	1	26	20	10	16	10	83
rib	-	54	16	1	62	81	214
sternum	-	-	1	-12	-	-	1
scapula	-	16	11	4	1	-	32
humerus	-	5	8	4	-	HER	17,
radius	-	8	10	1	1		20
ulna	-	9	4	2	-		15
pelvis	-	11	17	2	4	-	34
femur	-	7	7	2	1		17
patella	-	-	-	-	-		0
tibia	-	10	24	7	2	-	43
fibula	-	-	-	4	-	-	4
carpal/tarsal	-	5	2	1	-	-	8
metapodial	-	20	26	12	-	-	58
phalanx		18	5	-	-	-	23
loose teeth	-	9	4	9	1	-	23
1.b.fragments	-	103	5	TEA	71	72	148
fragments	-	-	-	-	76	15	91
TOTAL	1	230	177	71	240	179	898
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TABLE A12 COMMON DOMESTIC UNGULATES PHASE 4 NORTHERN PROPERTY

	horse	cattle	sheep	pig	c-size	s-size	TOTAL
horn core	-0	-	3	-	-	-	3
Cranium	-	13	1	4	-	1	19
hyoid	-	1	1	-	-	-	2
maxilla	-	6	2	2	-	_	10
mandible	-	13	10	8	-	-	31
vertebra	3	55	13	8	13	2	94
rib	-	76	31	7	31	151	296
sternum		1	-	-	-	-	1
scapula	-	20	15	4	3	1	43
humerus	-	11	10	7	-	-	28
radius		15	11	2		-	28
ulna	-	11	2	3	-	-	16
pelvis	-	13	8	1	3	-	25
femur	-	21	9	2	-	1	33
patella	-	-	-	-	-	-	0
tibia	-	15	19	2	-	-	36
fibula	-	***	-	6	-	-	6
carpal/tarsal	1	6	3	2	-	-	12
metapodial	~	38	55	5	-	-	98
phalanx	-	34	8	-		-	42
loose teeth	3	3	8	7	-		21
l.b.fragments	-	-	-	-	88	46	134
fragments	_	-	-		48	2	50
TOTAL	7	352	209	70	186	204	1028

After A12

KEY TO OTHER SPECIES

Normally these archive tables use the first three letters of the common name but there are exceptions where this would be misleading. For further details of the species involved please see the text.

RED Red deer, <u>Cervus</u> elaphus FAL Fallow deer, Dama dama ROE Roe deer, <u>Capreolus</u> <u>Capreolus</u> RAB Rabbit, Oryctolagus cuniculus HAR Brown hare, Lepus Capensis DOG Domestic dog CAT Domestic cat FER Domestic ferret Mustela putoriussp (garden soil scan A43) FOW Domestic fowl PEA Peacock, Pavo cristatus (garden soil scan A44) GOO Domestic and wild geese DOM Domestic duck D/M Domestic duck or mallard, Anas platyrhynchos TEA Teal, <u>Anas crecca</u> MOO Moorhen, Gallinula chloropus (garden soil sCan A44) COR Cormorant, Phalacrocorax Carbo WOO Woodcock, Scolopax rusticola Pigeons, Columba sp. PGN JAC Jackdaw, Corvus monedula C/R Crow/rook, Corvus corone/ frugilegus RAV Raven, Corvus corax THR Thrushes, Turdus sp. OTH Bird bones not identified to species CAR Cartilaginous fish F₩ Freshwater species EEL Common eel, Anguilla anguilla CON Conger eel, Conger conger HER Herring, Clupea harengus HAD Haddock, Melanogrammus aeglefinus COD Cod, <u>Gadhus</u> morhua Ling, Molva molva LIN HAK Hake, Merluccius merluccius Cod family, Gadidae GAD GUR Gurnard family, Triglidae (garden soil scan A45) Flatfish, probably all Pleuronectidae e.g. plaice, flounder P/F

UNF Fish bones unidentified to species

TABLE A13

OTHER MAMMALIAN REMAINS PHASE 1A

	red	fal	roe	rab	har	dog	cat	TOTAL
antler	1	1	**128	-	****	-	-	2
Cranium	-	-	-	-		-		0
hyoid		-		-	-	-	-	0
maxilla		-	-	-	***	-	-48	0
mandible	-	-	-	-	-			0
vertebra		- .	-	-	-	-	-	0
rib	-		-		-	-	-	0
sternum		—		-	-	-	-	0
scapula	-	-	-	-		1	-	1
humerus	-		-	-	-	-	1	1
radius		-		-	-	-	-	0
ulna	-	-	-	. ***	-	*15	-	0
pelvis	-	-	_	-	-	-	<u> </u>	0
femur	-	-	-	-	-	-	-	0
patella		-	-	-	-		-	0
ibia	-		-6	-		-	2	2
fibula	•• =	-	-		-		-	0
carpal/tarsal	-10	-	-		-	-	-	0
metapodial	-	-	-	-	-	-	-	0
phalanx	-	~	-	-		-		0
loose teeth		-	-	-	-		-	0
l.b.fragments	-	-	-	-	_	-		0
fragments	-	-		-	-	-	-	0
TOTAL	1	1	0	0	0	1	3	6

TABLE A14 OTHER MAMMALIAN REMAINS PHASE 1B

	red	fal	roe	rab	har	dog	cat	TOTAL
antler	-	-	-	-	-	-	-	0
Cranium		-		-	-	-	1	1
hyoid	_	-	+H2	-		-	-	0
maxilla	-	-	-	-		1	-	1
mandible	-	~	-	-	-	1		1
vertebra	-	-		-	-	-	-	0
rib	-	-	-	-	-	-	-	0
sternum	-	-	-	-	-	_	-	0
scapula	-	_	-	-	-	-	-	0
humerus	-	-	-	-	-	-	1	1
radius	-	_		-	1	-	-	1
ulna	-	-	_	_	67	-	1	1
pelvis	-	_	-	-	-	-	-121	0
femur		-		-	-	_	2	2
patella	-	_	-		-	-	***	0
tibia		-	1	-	-	-	1	2
fibula	-	_	-	-	-		-	0
carpal/tarsal	-	-	-	-	1	-	-	1
metapodial	-	-	-	-	-	-	-	0
phalanx	1	-	-	-	-	_	•	1
loose teeth	1		-	***	-	-		1
l.b.fragments	-	-	-	-		-	-	0
fragments	~	-	-	-	-	-		Ó
TOTAL	2	0	1	0	2	2	б	13

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TABLE A15 OTHER MAMMALIAN REMAINS UNSTRATIFIED PHASE 1

	red	fal	roe	rab	har	dog	Cat	TOTAL
antler	-	-	-	-		-	-	0
Cranium	-	-	-	-	-	-		0
hyoid	-	-	-	-	-	-	-	0
maxilla		-	-	-	-	-	-	0
mandible	-	-	-	-		-		0
vertebra	-	-		-	-	-	-	0
rib	-		-	-	-		-	0
sternum	-	-	-	-	-	-	-	0
scapula	-	_	-	-		-	-	0
humerus	1	-		-	-	*3	-003	1
radius	-	-	-	-	-	1	-	1
ulna	-	-	-	-		-	<u> </u>	0
pelvis	-	-		-	-	-	**3*	0
femur	4726	-	-	~	-	-	-	0
patella	-	-	-	-	-	-	**22	0
tibia	*0	-	-	-	1	-	-	1
fibula		-	102	-	-	-		0
carpal/tarsal	-	-	-	-	-	-	_	0
metapodial	_ .	6 2	-	-	-		1	1
phalanx		-		-	-	-		0
loose teeth	-	-	-	-	-	-	-	0
1.b.fragments	_	-	-	-	-	-		0
fragments	-	-			-		-	0
TOTAL	1	0	0	0	1	1	1	4

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TABLE A16 OTHER MAMMALIAN REMAINS PHASE 1C

	red	fal	roe	rab	har	dog	Cat	TOTAL
antler	1	-	-	-	-	-	~	1
Cranium	-	-	-	-	-	-		0
hyoid	***		÷a	-	-	-	-	0
maxilla	-	-	· _	-	-	-	-	0
mandible	-	-	-	-		1	-	1
vertebra	-	-	-	-		-	W22	0
rib		-	-	-	-	-	-	0
sternum	-	_	-	-	-		-	0
scapula	-	-	-	-	-	-	-	0
humerus	-	-	-	-		-	-	0
radius	-		***	-	-	-	-	0
ulna	-	-	-	-	1		-	1
pelvis	-			-	-	-		0
femur	-	-	-	1		-	-	1
patella	-	-	-	-	-	-		0
tibia	-	-		-	-	-	-	0
fibula	-	-		-	-	-	-00-	0
carpal/tarsal	-	-	-	~	-	-	-	0
metapodial	-	-	~	-	-	-	1	1
phalanx	-	-	-	-	-	-	1	1
loose teeth	-	-	-	-		-	-	0
l.b.fragments	-	-		-	-	-	-	0
fragments	~	-	-	-	***		_	Ó
TOTAL	1	0	0	1	1	1	2	6
		-						

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TABLE A17 OTHER MAMMALIAN REMAINS PHASE 2 SOUTHERN PROPERTY

|               | red  | fal | roe       | rab | har  | dog | Cat  | TOTAL |
|---------------|------|-----|-----------|-----|------|-----|------|-------|
|               |      |     |           |     |      |     |      |       |
| antler        | -    | -   |           | -   |      | -   | -    | 0     |
| Cranium       |      | -   |           |     |      | -   | **** | 0     |
| hyoid         | -    | -   | -         | -   | -    | -   | ·    | 0     |
| maxilla       | -    |     | -         | -   | +-86 |     | -    | 0     |
| mandible      | -    | ~   | -         | -   |      | -   | -    | 0     |
| vertebra      | -    | -   | -         |     |      | -   | -    | 0     |
| rib           | -    |     |           | ~   | -    | -   | -    | 0     |
| sternum       | *==  | -   | -         | -   | -    | -   | -    | 0     |
| sCapula       | -    | -   | -         |     | -    | -   | -    | 0     |
| humerus       | **** | -   | -         | -   | -    | -   |      | 0     |
| radius        | -    | -   | - <b></b> | -   | -    | -   | -    | 0     |
| ulna          |      | -   | -         | -   | -    | 1   | -    | 1     |
| pelvis        | 475  | -   | -         |     | -    | -   | -    | 0     |
| femur         | -    |     |           | 1   | -    | -   | -    | 1     |
| patella       | -    | ~   | -         | -   | -    |     | _    | 0     |
| tibia         | -    | -   |           | 1   | ~    | -   | 1    | 2     |
| fibula        | -    | -   | -         | -   | -    | _   | _    | 0     |
| carpal/tarsal | -    | -   | -         | -   | -    | _   | _    | 0     |
| metapodial    |      | -   | _         | -   | -    | 1   | 2    | 3     |
| phalanx       |      | -   | -         |     | -    | -   | -    | 0     |
| loose teeth   | _    | _   | -12       | -   | _    | -   | -    | 0     |
| l.b.fragments | _    |     | -103      | -   | -    | -   | _    | 0     |
| fragments     | ~    | _   | -         | -   | -    | -   | -    | Ö     |
| τοτατ.        | 0    | ٥   | ٥         | n   | 0    | ŋ   | э    | 7     |
| ~ ~ * * * * * | Ŭ    |     | v         | 2   | U    | 2   | . 3  | /     |

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TABLE A18 OTHER MAMMALIAN REMAINS PHASE 2 NORTHERN PROPERTY

|               | red | fal | roe        | rab         | har         | dog         | cat        | TOTAL |
|---------------|-----|-----|------------|-------------|-------------|-------------|------------|-------|
|               |     |     |            |             |             |             |            |       |
| antler        | -   | -   | -          | -           | -           | -           | -          | 0     |
| Cranium       |     | -9  |            |             | -12         | tem         | -          | 0     |
| hyoid         | -   | -15 | **2        |             | -9          |             |            | 0     |
| maxilla       | -   | -   |            |             |             | -           |            | 0     |
| mandible      | -   | -   | -          | -           | -           | -           | 1          | 1     |
| vertebra      | 1   | -   | -          | 1           |             | _           |            | 2     |
| rib           | -   | -   | -          | 1           | -           | -           | -          | 1     |
| sternum       | -   |     | *2         | -           | -           | -           | -          | 0     |
| scapula       | -   | -   |            | ***         |             | -           | -          | 0     |
| humerus       | -   | -   | -          |             |             | <b>1</b> 20 | -          | 0     |
| radius        | -   | -   | -          | -           | -           | -           | -          | 0     |
| ulna          | -   | -   | -          |             | + <b>CB</b> | *13         | 803        | 0     |
| pelvis        |     | ~3  |            | 2           | -           | -           |            | 2     |
| femur         | -   | -   | -          | -           | -           | -           | -          | 0     |
| patella       | -   | -   | *53        | <b>r</b> 00 |             | -           | *2*        | 0     |
| tibia         | -   | -   |            | 1           | -           | -           | -          | 1     |
| fibula        |     | -   | -          | -           | -           | -           | -          | 0     |
| carpal/tarsal | -   |     | -          | -           | -           | -           | -          | 0     |
| metapodial    | -   | 1   | -          | -           | -           | -           | -          | 1     |
| phalanx       | -   | -   | * <b>B</b> | *3          | -8-         | ***         | <b>633</b> | 0     |
| loose teeth   | -   | -   | -          | -           | -           | +12         | -          | 0     |
| l.b.fragments | -   | -   | -          | -           | -           | -           | -          | 0     |
| fragments     | ~   | -   | -          | -           |             | -           | -          | 0     |
|               |     |     |            |             |             |             |            |       |
| TOTAL         | 1   | 1   | 0          | 5           | 0           | 0           | 1          | 8     |
|               |     | *   |            |             |             |             |            |       |

TABLE A19 OTHER MAMMALIAN REMAINS PHASE 3 SOUTHERN PROPERTY

|               | red | fal | roe | rab | har  | dog | cat  | TOTAL |
|---------------|-----|-----|-----|-----|------|-----|------|-------|
| antler        | 1   | _   | -   | _   | _    | _   | _    | 1     |
| Cranium       | -   | -   |     | -   |      |     | ~    | Ó     |
| hyoid         | -   | -   | -   | -   | -    | -   | -    | Ő     |
| maxilla       | -   | -   | -   | -   | -    |     |      | 0     |
| mandible      | -   | -   | -   | -   | -    | _   | -    | 0     |
| vertebra      |     | -   |     |     |      |     | -    | 0     |
| rib           | -   | -   | -   | -   | -    | -   | _    | 0     |
| sternum       |     | ~   |     |     |      | -   | -    | 0     |
| scapula       | -   | -   | -   | -   | -    |     | -    | 0     |
| humerus       | -   | -   | -   | 1   | **** | -   | 1    | 2     |
| radius        |     |     |     | -   |      | -   | -    | 0     |
| ulna          |     | -   | -   | _   | -    | -   | 1    | 1     |
| pelvis        | -   |     | -   | 1   | -    | -   | -    | 1     |
| temur         | -   |     | -   | -   | -    | *** | -    | 0     |
| patella       | -   | -   | -   |     | -    | -   | -    | 0     |
| tibia         | -   | -   | -   | 2   |      | -   | 3    | 5     |
| fibula        | -   | -   | -   | -   | -    | -   | -    | 0     |
| Carpal/tarsal |     | -   | *** | -   | -    |     | -112 | 0     |
| metapodial    |     | -   |     | 1   | 2    |     | -    | 3     |
| phalanx       | -   | -   | -   | _   |      | -   |      | 0     |
| loose teeth   | -   | -   |     | -   | -    | -   | -    | 0     |
| 1.b.fragments | -   | -   | -   | -   |      | -   |      | 0     |
| fragments     |     | -   | ~=  | -   | -    | -   | -    | 0     |
| TOTAL         | 1   | 0   | 0   | 5   | 2    | 0   | 5    | 13    |

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TABLE A20 OTHER MAMMALIAN REMAINS PHASE 3 NORTHERN PROPERTY

|               | red | fal        | roe | rab         | har      | dog  | Cat | TOTAL |
|---------------|-----|------------|-----|-------------|----------|------|-----|-------|
|               |     |            |     |             |          |      |     |       |
| antler        | -   | -          |     | -           | -        | **** |     | 0     |
| Cranium       | _   | -          |     |             | -        | -    | -   | 0     |
| hyoid         | -   | -          |     | -           | -2       | -    |     | 0     |
| maxilla       | -   |            | -   | -           | -        | ***  | -   | 0     |
| mandible      | -   | -          | -   | 1           | -        | -    | 1   | 2     |
| vertebra      | -   | -          | -   | veite       | -        | -    | -   | 0     |
| rib           | -   | <b>773</b> | -   | 1           | -        | -    | -   | 1     |
| sternum       | -   | -          | -   | -           | -        | -    | -   | 0     |
| scapula       | -   | -          | -   | -           | -        | -    | -   | 0     |
| humerus       | -   | -          | -   | 1           | -        | ***  | -   | 1     |
| radius        | -   | -          | -   | -           |          | -    | -   | 0     |
| ulna          | -   | -          | -   | 1           | -        | -    | -   | 1     |
| pelvis        |     | -          | -   | -12         | -        | -    | -   | 0     |
| femur         | -   | -          | -   | 1           | -        |      | 1   | 2     |
| patella       |     |            | -   | -           | -        | -    |     | 0     |
| tibia         | -   | -          | -   | 46 <u>8</u> | -        | -    | -   | 0     |
| fibula        | -   | -          | -   | -           | -        | -    | -   | 0     |
| carpal/tarsal |     | ***        | -   | -           |          | -    | -   | 0     |
| metapodial    | -   | -          | -   | 2           | <i>'</i> | -    |     | 2     |
| phalanx       |     | -          | -   | -           | -        | 1    | -   | 1     |
| loose teeth   | ~   | -          | -   | -           |          |      | -   | 0     |
| l.b.fragments | -   | -9         |     | -           | ~        |      | -   | 0     |
| fragments     | -   | -          | -   | -           | -        | -    | -   | 0     |
| TOTAL         | 0   | 0 -        | 0   | 7           | 0        | 1    | 2   | 10    |

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TABLE A21 OTHER MAMMALIAN REMAINS PHASE 4 SOUTHERN PROPERTY

|               | red  | fal | roe  | rab | har  | dog | Cat        | TOTAL |
|---------------|------|-----|------|-----|------|-----|------------|-------|
|               |      |     |      |     |      |     |            |       |
| antler        | 3    | 1   |      |     | -    | -   | -          | 4     |
| cranium       |      |     | -    | -0  | -    | -   | -          | 0     |
| hyoid         | -    | -   | -    | -   | -    | -   | -          | 0     |
| maxilla       | -    | -   | -    | -   |      |     |            | 0     |
| mandible      | -    | -63 | **82 | 1   | -    | -   | 1          | 2     |
| vertebra      | -    | -   | -    | -   | -    | -   | -          | 0     |
| rib           | -    | _   | -    | 2   |      | -   |            | 2     |
| sternum       | -    |     |      |     |      | -   | 4D         | 0     |
| scapula       | -224 | ~   | -    | -   | -    | -   | _          | 0     |
| humerus       | -    | -   | -    | -   | -    | -   | -          | 0     |
| radius        | -    | -   | -    | 2   | -    | -   | -          | 2     |
| ulna          | -    | -   |      | 1   | **** | -   | 103<br>1   | 1     |
| pelvis        | -    | -   | -    | 3   | -    | -   | -          | 3     |
| femur         | was  |     | -    | 3   | -    | -   | -          | 3     |
| patella       | -    |     | -    | -   | -    | -   | -          | 0     |
| tibia         |      | -   | -    | 1   | -    | -   | -          | 1     |
| fibula        | -    | -   | -    | -   | -    | -   | -162       | 0     |
| carpal/tarsal | _    | 1   | -    | -   | -    |     | -          | 1     |
| metapodial    | -    | 1   | -    | 2   | 1    | -   | -          | 4     |
| phalanx       | -    | -   | -    | -   | -    | -   | -          | 0     |
| loose teeth   | _    | -   | -    | -   | -    |     | <b>7</b> 2 | 0     |
| l.b.fragments | -    | -   | -    | -   | -    | -   | -          | 0     |
| fragments     |      | -   | -    | -   | -    | -   | -          | 0     |
|               |      |     |      |     |      |     |            |       |
| TOTAL         | 3    | 3   | 0    | 15  | 1    | 0   | 1          | 23    |

TABLE A22 OTHER MAMMALIAN REMAINS PHASE 4 NORTHERN PROPERTY

|               | red | fal | roe | rab        | har | dog | cat | TOTAL |
|---------------|-----|-----|-----|------------|-----|-----|-----|-------|
|               |     |     |     |            |     |     |     |       |
| antler        | 1   |     | -   | -          | -   | -   | -   | 1     |
| Cranium       | -   |     | -   | -          |     | -   | -   | 0     |
| hyoid         | -   | -   |     | -          | -   | -   | -   | 0     |
| maxilla       | -   | -   | -   | -          | -   | -   | -   | 0     |
| mandible      | -   | -   | -   | -          | -   | -   |     | 0     |
| vertebra      | -   | -   | -   | -          | -   |     | -   | 0     |
| rib           | -   | -   | -   |            | -   | -   |     | 0     |
| sternum       | -   | -   |     | -          | -   | -   | -   | 0     |
| scapula       | -   | -   |     | -          | -   |     | -   | 0     |
| humerus       |     |     | -   | 3          | -   | -   |     | 3     |
| radius        | -   | -   | -   | -          | -   | -   | 1   | 1     |
| ulna          | -   | -   | -   | · <u> </u> | -   |     | 1   | 1     |
| pelvis        | -   | -   |     | 5          |     | -   | -   | 5     |
| femur         |     | -   | -   | 1          | -   |     | _   | 1     |
| patella       | -   | -   | was | -          |     | -   | _   | 0     |
| tibia         | -   | -   |     | 6          | -   | -   | 1   | 7     |
| fibula        | -   | -   | -   | -          | -   | -   | -   | 0     |
| carpal/tarsal | -   | -   | -   | -          | -   | _   | ~   | 0     |
| metapodial    | _   | -   | -   | 1          |     | 1   | _   | 2     |
| phalanx       | -   | -   | -   | _          | -   | _   |     | 0     |
| loose teeth   | -   |     | _   | -          | _   | 1   |     | 1     |
| l.b.fragments | -   | -   | -   | -          | -   | -   | _   | 0     |
| fragments     | -   | -   | ma  | -          |     | -   | _   | 0     |
|               |     |     |     |            |     |     |     |       |
| TOTAL         | 1   | 0   | 0   | 16         | 0   | 2   | 3   | 22    |

## TABLE A23BIRD BONES +...ASE 1A

|          | FOW | GOO      | DOM | D/M | TEA | COR | WOO | PGN | JAC | C/R | RAV | THR | ОТН | TOTAL |
|----------|-----|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|
| skull    |     |          |     |     |     |     | ,   |     |     |     |     |     |     | 0     |
| vertebra |     | -        | -   |     | . – |     | -   |     | -   | -   |     |     |     | 0     |
| sternum  | 1   | _        | _   |     | -   | -   |     |     |     |     | -   |     | -   | 1     |
| furcula  | _   |          | _   |     |     | _   | -   |     |     |     |     |     | -   | 0     |
| çoracoid | 2   | -        |     | _   |     | -   | -   | -   | -   | _   | -   |     | -   | 2     |
| scapula  | -   | -        |     | -   | _   |     | -   | -   | -   | -   | -   | -   |     | 0     |
| humerus  | 1   | <u> </u> | -   | -   |     |     | -   | -   | -   | -   | -   |     |     | 1     |
| radius   | -   | _        |     |     | _   |     | -   | -   | -   | -   | -   | -   |     | 0     |
| ulna     | 1   | -        | -   | -   | -   | -   | -   | -   | -   | -   |     |     | -   | 1     |
| pelvis   | _   |          | -   | -   |     | -   | -   | -   |     |     | -   | _   | -   | 0     |
| femur    | 1   | -        | -   | -   | -   | -   |     | -   | -   | -   | -   |     | -   | 1     |
| tib-tar  | 3   | -        | -   | _   | -   | -   | _   | -   | -   | -   | -   | -   | -   | 3     |
| carp-met | 2   |          | -   | -   | _   | -   |     | -   | -   | -   | -   | _   | -   | 2     |
| tar-met  | -   |          | _   |     | _   |     | -   | -   | -   | 1   | -   | -   |     | 1     |
| phalanx  | -   | _        |     | -   |     | _   |     | -   | -   | -   | -   | -   | -   | 0     |
| other    | _   |          | _   |     | -   | -   | -   | -   | -   | -   | -   | -   | 7   | 7     |
|          |     |          |     |     |     |     |     |     |     |     |     |     |     |       |
| TOTALS   | 11  | 0        | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 1   | 0   | 0   | 7   | 19    |

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#### TABLE A24 BIRD

| D BONES | Ρ. | ЗE | 1B |
|---------|----|----|----|
|---------|----|----|----|

|          | FOW | GOO | DOM | D/M | TEA | COR | WOO | PGN | JAC | C/R | RAV | THR | ОТН | TOTAL  |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--------|
| skull    |     |     |     |     |     |     |     |     |     |     |     |     |     |        |
| vertebra |     |     | -   | -   | _   | _   | _   |     | _   |     |     | _   | _   | 0      |
| sternum  | 1   | -   | _   | _   | _   |     | _   | _   | _   | _   | _   | _   | _   | 1      |
| furcula  | -   | _   | -   |     | -   | _   | _   | _   | _   | _   | _   | _   | _   | ·<br>٥ |
| coracoid | -   |     | -   |     | -   | -   |     | -   |     | _   |     |     | _   | 0      |
| scapula  | _   | -   | -   |     |     | ~   | _   | _   |     | -   | _   | _   | -   | 0      |
| humerus  | 3   | _   | -   | -   | -   | -   | -   | _   | _   | _   | _   |     | -   | 0      |
| radius   | 2   | 1   | _   | 1   | -   | -   | -   | -   | -   | _   | _   | ~   | ~   | 3      |
| ulna     | _   | -   | -   | _   | _   |     |     | -   |     |     | _   |     | ~   | 4      |
| pelvis   | -   | _   | _   | -   |     | -   | -   | -   |     | _   | -   |     |     | 0      |
| femur    | -   | -   | -   | _   |     |     |     |     | _   |     |     |     |     | 0      |
| tib-tar  | 1   | _   | -   | -   |     |     |     |     | _   | -   | -   | -   | -   | 0      |
| carp-met | _   | 3   | _   | _   |     | _   | _   | _   | -   | -   | -   | -   | -   | 1      |
| tar-met  | -   | -   | -   |     | -   | _   | _   | _   | -   |     | -   | -   | -   | 3      |
| phalanx  | -   | 1   | _   | _   | _   |     | _   | -   | -   |     |     |     |     | 0      |
| other    | -   | -   | _   | _   | _   | _   | -   | -   | -   | -   | -   | -   |     | 1      |
|          |     |     |     |     | -   | -   | -   | -   |     | -   | -   | -   | 10  | 10     |
| TOTALS   | 7   | 5   | 0   | 1   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 10  | 23     |

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 TABLE A25
 BIRD BONES P. JE UNSTRATIFIED PHASE 1

|          | FOW     | GOO      | DOM   | D/M         | TEA | COR | WOO         | PGN | JAC | C/R | RAV         | THR | ОТН | TOTAL |
|----------|---------|----------|-------|-------------|-----|-----|-------------|-----|-----|-----|-------------|-----|-----|-------|
| skull    | 3       | <br><br> |       |             |     |     |             |     |     |     |             |     |     | 3     |
| vertebra | 15      | -        | -     | _           | -   | -   | _           | _   | -   | -   |             |     | -   | 15    |
| sternum  | 1       | -        | -     | -           |     |     |             |     | -   | -   | _           | _   | _   | 1     |
| furcula  | 1       |          |       |             |     |     | -           |     |     |     |             | -   | -   | 1     |
| coracoid | 2       |          |       | -           |     | -   |             |     | -   | -   | -           |     |     | 2     |
| scapula  | 3       | -        | _     | -           | _   | _   | <del></del> | _   |     | -   | -           |     |     | 3     |
| humerus  | 2       | -        | -     | -           |     |     | -70         |     |     | -   | -           | -   | -   | 2     |
| radius   | 2       | -        | -     | -           | -   | -   | -           | -   | -   | -   | -           | -   | _   | 2     |
| ulna     | 3       |          | ***** | -           | _   | -   | -           |     | -   | ~~  |             |     | _   | 3     |
| pelvis   | 2       |          |       | <del></del> |     |     | _           | -   | -   | -   | -           | -   | -   | 2     |
| femur    | 2       |          |       | ***         | _   | -   |             |     | -   | -   | <del></del> | -   | _   | 2     |
| tib-tar  | 2       |          |       |             | -   | _   | -           | -   |     |     | ****        | _   | -   | 2     |
| carp-met | 2       | 1        | -     | -           | -   |     | -           | -   | -   | _   | -           | _   | -   | 3     |
| tar-met  | <u></u> | -        |       |             | -   | -   | -           | -   |     |     |             |     |     | 0     |
| phalanx  | 1       | -        | -     | -           | -   |     |             |     | -   | -   | -           | -   | -   | 1     |
| other    | 16      | -        | -     |             | _   | -   |             | -   |     | -   |             | •== |     | 16    |
|          |         |          |       |             |     |     |             |     |     |     |             |     |     |       |
| TOTALS   | 57      | 1        | 0     | 0           | 0   | 0   | 0           | 0   | 0   | 0   | 0           | 0   | 0   | 58    |

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# TABLE A26 BIRD BONES PH. \_E 1C

|          | FOW | G00 | DOM | D/M | TEA | COR | WOO       | PGN   | JAC     | C/R | RAV     | THR | OTH | TOTAL |
|----------|-----|-----|-----|-----|-----|-----|-----------|-------|---------|-----|---------|-----|-----|-------|
| skull    |     |     |     |     | ·   |     | . <u></u> | <br>- |         |     |         |     |     | 0     |
| vertebra | 1   | _   | _   | -   | -   |     | -         | _     | <u></u> | _   |         | _   | -   | 1     |
| sternum  | 3   | _   | _   |     |     | _   | -         |       | -       |     | <u></u> | _   | _   | 3     |
| furcula  | -   | _   | _   | _   | -   | _   | _         |       | _       | _   |         | _   |     | 0     |
| coracoid | 1   |     | -   | -   | -   | -   | _         | -     | -       | _   | -       | -   | -   | 1     |
| scapula  | -   | -   |     | -   | _   | -   | -         | -     | -       |     | -       | -   |     | 0     |
| humerus  | 2   | _   |     | -   | -   | -   | -         | -     | -       | -   | -       | -   |     | 2     |
| radius   | 1   |     | _   | -   | -   | _   | -         | -     | -       | -   | -       |     | -   | 1     |
| ulna     | 2   | 1   | -   | -   | _   | -   | -         | -     |         | -   | -       | -   | -   | 3     |
| pelvis   | -   |     | -   | _   | -   | -   | -         |       | -       | -   | -       | -   |     | 0     |
| femur    | 7   | -   | -   | -   | -   | -   | -         | -     | -       | -   | -       | -   |     | 7     |
| tib-tar  | 3   | 2   | -   | -   |     |     |           | -     | -       | -   | -       | _   |     | 5     |
| carp-met | 1   | 4   | -   | -   |     | -   | -         | _     |         | -   | _       | -   | -   | 5     |
| tar-met  | 1   | -   | _   | -   | -   |     | -         | -     |         | -   | -       | *** | -   | 1     |
| phalanx  | -   | 1   | -   | _   |     | -   |           | -     | -       |     | -       | -   |     | 1     |
| other    | _   | -   |     | -   | -   | -   | -         | -     | -       | -   |         | -   | 5   | 5     |
|          |     |     |     |     |     |     |           |       |         |     |         |     |     |       |
| TOTALS   | 22  | 8   | 0   | 0   | 0   | 0   | 0         | 0     | 0       | 0   | 0       | 0   | 5   | 35    |

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### TABLEA27BIRDBONESPHASE2SOUTHERNPROPERTY

|          | FOW | G00 | DOM | D/M     | TEA | COR | WOO         | PGN | JAC | C/R | RAV | THR  | отн | TOTAL |
|----------|-----|-----|-----|---------|-----|-----|-------------|-----|-----|-----|-----|------|-----|-------|
| skull    |     |     |     |         |     |     |             |     |     |     |     |      |     |       |
| vertebra |     | -   | · _ |         | -   | _   | _           | -   | _   | _   | _   | _    | -   | 0     |
| sternum  | -   | 1   | _   |         |     | _   | _           | _   | _   | _   | _   | _    | -   | 1     |
| furcula  | 2   | _   | -   |         | _   | -   | _           | -   | ·   |     |     |      | -   | 2     |
| çoracoid | 2   | -   | _   | -       |     |     | _           | _   | -   | _   | _   | _    | _   | 2     |
| scapula  | 1   | -   | _   | <u></u> |     | _   | -           | _   | -   |     | -   | _    | -   | 1     |
| humerus  | 3   | 1   | -   |         |     | -   | -           | -   | -   | _   | _   | -    | -   | 4     |
| radius   | 1   |     | -   | _       |     |     | -           | -   | _   | -   | -   | -    |     | 1     |
| ulna     | -   | -   | -   | _       | -   | -   | 1           |     |     | -   | -   | _    | -   | 1     |
| pelvis   | 1   | -   | _   | -       |     | -   | <del></del> | -   | -   |     |     | _    | -   | 1     |
| femur    | 1   |     | -   | _       |     |     | -           | -   | -   | -   | -   |      |     | 1     |
| tib-tar  | 3   | -   | -   |         | -   | _   | -           | -   | -   | -   | -   | -    | -   | 3     |
| carp-met |     | _   | _   |         | -   | -   | _           | -   | _   | _   | -   | **** | _   | 0     |
| tar-met  | 1   | 1   | -   | -       |     | -   |             | -   | -   | -   |     |      | -   | 2     |
| phalanx  | -   |     |     | -       | _   | -   | _           | _   |     |     | _   |      |     | 0     |
| other    | -   | -   |     | -       | -   | -   | _           | -   | -   | -   |     | _    | 4   | 4     |
|          |     |     |     |         |     |     |             |     |     |     |     |      |     |       |
| TOTALS   | 15  | 4   | 0   | 0       | 0   | 0   | 1           | 0   | 0   | 0   | 0   | 0    | 4   | 24    |

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TABLEA28BIRDBONESISE2NORTHERNPROPERTY

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|          | FOW | GOO         | DOM | D/M | TEA  | COR | WOO | PGN | JAC | C/R | RAV | THR | ОТН | TOTAL |
|----------|-----|-------------|-----|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-------|
| skull    |     | <br>        |     |     | ···· |     |     |     |     |     |     |     |     | 0     |
| vertebra | 2   |             | -   | -   |      | _   | -   | _   | -   | -   | -   | -   | -   | 2     |
| sternum  | -   | <del></del> | -   | -   | -    | -   | -   |     | -   |     | -   | -   | -   | 0     |
| furcula  | 2   | -           |     | -   | -    |     | -   |     | -   |     | -   |     | -   | 2     |
| coracoid | 1   | -           | -   | -   |      | _   | -   | -   | -   | -   | -   | -   | _   | 1     |
| scapula  | 1   | -           | -   |     | -    |     | _   |     | -   | -   | _   | -   | -   | 1     |
| humerus  |     | _           |     | -   | _    | -   | -   | -   | -   |     | -   | -   | -   | 0     |
| radius   | 2   | 1           | -   | _   | -    | -   | -   | _   | -   | _   | _   | _   |     | 3     |
| ulna     | 2   | -           |     | -   | -    | -   | -   | -   | -   |     | -   | -   | -   | 2     |
| pelvis   | _   | 1           | _   | _   | -    | -   |     | -   | -   | _   |     | _   |     | 1     |
| femur    | 2   | -           | -   |     | -    | -   | -   | -   | -   | -   | _   | -   | -   | 2     |
| tib-tar  | 3   | 1           |     | -   | -    |     | -   | _   |     | _   |     | -   |     | 4     |
| carp-met | 2   | 1           | _   | -   | _    | -   | -   | _   | -   |     | _   | _   |     | 3     |
| tar-met  | 6   |             |     | -   | -    | _   | -   |     | -   | -   | -   |     | -   | 6     |
| phalanx  | _   | -           | -   | -   | -    | -   | -   | -   | -   | -   | -   |     | -   | 0     |
| other    | 1   |             | -   | -   | _    | -   | -   | -   | _   |     | _   | -   | 2   | 3     |
|          |     |             |     |     |      |     |     |     |     |     |     |     |     |       |
| TOTALS   | 24  | 4           | 0   | 0   | 0    | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 2   | 30    |

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## TABLE A29BIRD BONES Pl. JE 3 SOUTHERN PROPERTY

|          | FOW | GOO | DOM | D/M | TEA         | COR | WOO | PGN | JAC | C/R  | RAV | THR | OTH | TOTAL |
|----------|-----|-----|-----|-----|-------------|-----|-----|-----|-----|------|-----|-----|-----|-------|
| skull    |     |     |     |     |             |     |     |     |     |      |     |     |     | 0     |
| vertebra | -   |     | -   | -   |             | -   |     | -   | -   | **** | -   |     | -   | 0     |
| sternum  | 1   | -   | _   | -   | -           | -   |     | -   | -   |      | -   | ~   | -   | 1     |
| furcula  | _   | -   | -   | _   | -           |     | -   | -   |     |      | -   |     | -   | 0     |
| coraCoid | 3   | -   |     |     |             | -   | -   | -   | -   | -    |     | -   | -   | 3     |
| scapula  | -   | -   |     |     | -           | _   | -   |     | -   | -    |     | —   | -   | 0     |
| humerus  | 2   |     | -   | _   | -           | -   |     | -   |     | -    | -   |     |     | 2     |
| radius   | 5   | -   |     | -   | -           | -   | -   | -   |     | -    | -   | -   |     | 5     |
| ulna     | 3   |     |     |     | -           | -   | -   |     | -   | -    |     | -   | -   | 3     |
| pelvis   | 2   | -   | -   |     | -           | -   |     | -   | -   | -    | -   | -   |     | 2     |
| femur    | 3   | -   | -   | -   | -           | -   | -   | -   | -   | -    |     | -   | -   | 3     |
| tib-tar  | 1   |     | -   | -   | -           | -   |     | -   | -   |      |     | -   | -   | 1     |
| carp-met | -   |     | -   |     |             | -   | -   |     | -   | -    | -   |     | -   | 0     |
| tar-met  | 3   | -   |     |     | -           | -   | -   | -   | -   | -    | -   |     | -   | 3     |
| phalanx  | -   | · - |     |     | <del></del> | -   | -   | -   | -   | -    | -   |     | -   | 0     |
| other    |     | -   | -   | -   | -           |     | -   | -   | -   |      |     | -   | -   | 0     |
| TOTALS   | 23  | 0   | 0   | 0   | 0           | 0   | 0   | 0   | 0   | 0    | 0   | 0   | 0   | 23    |

## TABLE A30 BIRD BONES PHASE 3 NORTHERN PROPERTY

|          | FOW | GOO | DOM | D/M         | TEA         | COR | WOO     | PGN | JAC | C/R | RAV | THR | ОТН | TOTAL |
|----------|-----|-----|-----|-------------|-------------|-----|---------|-----|-----|-----|-----|-----|-----|-------|
| skull    |     | 1   |     |             |             |     |         |     |     |     |     |     |     | 2     |
| vertebra | -   | -   | -   |             |             | -   | -       | -   |     | -   | -   |     |     | 0     |
| sternum  | 5   | -   | -   | -           |             |     | <u></u> | -   | -   | -   | -   | -   | -   | 5     |
| furcula  | -   | 2   | -   | -           | _           | -   | -       |     | -   | -   |     |     |     | 2     |
| coracoid | 1   | 1   | _   |             | _           | -   |         |     | _   | -   | -   | _   | _   | 2     |
| scapula  | 2   | -   | _   | _           | -           | -   | -       | -   |     |     | -   | -   | _   | 2     |
| humerus  | 2   | -   |     | -           | 1           | -   |         |     | -   | -   | -   |     | -   | 3     |
| radius   | 1   | 3   | _   | 1           | -           |     | -       |     | 1   | -   | -   | -   | -   | 6     |
| ulna     | 5   | 1   | -   |             | -           | -   | -       |     | 2   | -   | -   | -   |     | 8     |
| pelvis   | 2   | 1   | -   | -           | -           | -   |         | -   | -   | -   |     |     | -   | 3     |
| femur    | 5   | -   | -   |             |             | -   |         | -   | -   | -   |     | -   | _   | 5     |
| tib-tar  | 5   | 1   | -   | -           | -           | -   | -       | -   | 1   | -   | -   | -   | -   | 7     |
| carp-met | 3   | 1   | 1   | _           | -           | -   |         | -   | 1   | -   | -   |     |     | 6     |
| tar-met  | 3   |     | 1   | <del></del> | <del></del> | -   | -       | -   | 2   |     | _   | -   |     | 6     |
| phalanx  | -   | -   |     | -           | -           | -   | -       | -   |     | -   | -   | -   | -   | 0     |
| other    | -   | -   | -   | -           |             | -   |         | -   | -   | _   | -   | -   | 16  | 16    |
| TOTALS   | 35  | 11  | 2   | 1           | 1           | 0   | 0       | 0   | 7   | 0   | 0   | 0   | 16  | 73    |

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## TABLE A31 BIRD BONES PHASE - SOUTHERN PROPERTY

|          | FOW | G00 | DOM | D/M      | TEA | COR     | MOO  | PGN | JAC | C/R | RAV | THR | ОТН | TOTAL |
|----------|-----|-----|-----|----------|-----|---------|------|-----|-----|-----|-----|-----|-----|-------|
|          |     |     | · ` |          |     |         |      |     |     |     |     |     |     |       |
| SKULL    | -   | -   |     | _        |     |         |      |     |     |     |     |     |     |       |
| vertebra | -   | -   |     | -        | -   | -       | -    | -   | -   | -   |     | -   |     | 0     |
| sternum  | 6   |     | -   | -        |     | -       | -    | -   | -   | -   |     | _   |     | 6     |
| furcula  | 3   | -   | -   | -        |     | -       | -    | -   | -   |     |     |     |     | 3     |
| coracoid | 3   |     | -   | -        | -   | -       | -    | -   | -   |     |     | -   |     | 3     |
| scapula  | 1   | -   | -   | -        | -   | -       | -    |     | -   | -   | -   |     | -   | 1     |
| humerus  | 2   | 1   | -   | -        | -   | -       | -    | -   | -   | -   | -   |     | -   | 3     |
| radius   | 6   | 1   | -   | -        | -   | -       | -    | -   |     | -   | -   | -   | -   | 7     |
| ulna     | 3   | 3   | -   | -        | -   | -       | -    | -   | _   | -   | -   |     | -   | б     |
| pelvis   | -   | -   |     | <u> </u> | -   | -       | -    | -   | -   | -   | -   | _   | -   | 0     |
| femur    | 2   | 1   |     | _        | -   |         | -    | -   | -   | -   |     | -   | -   | 3     |
| tib-tar  | 4   | 1   | -   | 1        | -   | <u></u> | -    | 1   | ÷   | *** | -   | -   |     | 7     |
| carp-met | 1   | 1   |     | 1        | _   | -       | **** | -   |     | -   | _   | -   | -   | 3     |
| tar-met  | -   | -   | -   |          | -   | -       | -    | -   | -   | -   | -   |     | -   | 0     |
| phalanx  | -   | -   | -   | -        |     | -       | -    |     | _   |     | -   | -   | 1   | 1     |
| other    |     | -   |     | -        |     | -       | -    | -   | -   | -   | -   | -   | 15  | 15    |
|          |     |     |     |          |     |         |      |     |     |     |     |     |     |       |
| TOTALS   | 31  | 8   | 0   | 2        | 0   | 0       | 0    | 1   | 0   | 0   | 0   | 0   | 16  | 58    |

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## TABLE A32 BIRD BONES PHASE 4 .. ORTHERN PROPERTY

|          | FOW | G00 | DOM | D/M | TEA | COR | WOO | PGN                   | JAC | C/R | RAV      | THR | ОТН | TOTAL |
|----------|-----|-----|-----|-----|-----|-----|-----|-----------------------|-----|-----|----------|-----|-----|-------|
|          |     |     |     |     |     |     |     | · ··· ··· ··· ··· ··· |     |     |          |     | ·   |       |
| nortohro | 1   | •   |     | _   | _   | _   | -   |                       | _   | _   |          | _   | _   | 1     |
|          | I   |     | _   | _   |     |     |     |                       |     |     |          |     |     | ,     |
| sternum  | _   |     | -   | -   | -   | *** | -   | -                     |     | -   | <u> </u> |     | -   | 0     |
| furcula  | 6   | -   | -   | -   | -   |     | -   |                       | -   | -   |          | -   | -   | 6     |
| çoracoid | 3   | 1   |     | -   |     | _   |     | -                     | -   | -   | -        | -   | -   | 4     |
| scapula  | 3   | 2   | -   |     | -   | -   | -   | -                     | _   |     |          | -   | -   | 5     |
| humerus  | 7   | 5   | -   |     | -   | 1   | -   | -                     | -   | -   |          | -   |     | 13    |
| radius   | 3   | 3   | 1   |     | -   | -   | -   | _                     | -   |     |          | -   | 1   | 8     |
| ulna     | 5   | 1   | 1   | -   | 1   | -   | -   | -                     | -   | -   | 1        | -   | -   | 9     |
| pelvis   | 3   | -   | -   | -   | -   | -   | -   |                       | _   | -   | -        |     | -   | 3     |
| femur    | 3   | 1   | -   | ~   | -   | -   |     |                       | -   | -   | -        |     | -   | 4     |
| tib-tar  | 6   | 1   | 1   | -   | -   |     | -   |                       | -   | 1   | -        | -   | -   | 9     |
| carp-met | -   | 11  | -   | -   | -   | -   | -   |                       |     | -   | -        | 1   |     | 12    |
| tar-met  | 8   | 1   | -   | 1   | -   | -   | -   | -                     | -   |     | -        | -   | -   | 10    |
| phalanx  | -   | 2   | -   | -   | -   | -   |     | -                     |     | -   |          | -   | -   | 2     |
| other    | 1   | -   | -   | -   | -   | -   | -   | -                     | -   | -   |          | -   | 8   | 9     |
| TOTALS   | 49  | 29  | 3   | 1   | 1   | 1   | 0   | 0                     | 0   | 1   | 1        | 1   | 9   | 96    |

TABLE A33

| LIOU DONTO LUVOT | 1A |
|------------------|----|
|------------------|----|

|                | CAR | FW | EEL | HER | CON | HAD | COD | LIN | HAK | GAD | P/F  | UNF | TOTAL |
|----------------|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-------|
|                |     |    |     |     |     |     |     |     |     |     |      |     | 0     |
| narasphenoid   | -   |    |     |     | _   | -   |     | _   |     | _   | _    | -   | 0     |
| parasphenoru   | -   | _  | _   | -   |     | _   | -   |     | _   |     | _    |     | 0     |
| maxillary      |     |    |     | _   | -   |     | _   |     | -   |     | _    |     | 0     |
| dontary        |     |    |     | _   | -   |     | -   |     |     |     | _    | -   | 0     |
| articular      |     |    |     | _   | _   |     |     | -   |     | _   |      | -   | 0     |
| byomandibular  |     |    |     |     | _   | -   | -   | _   |     | -   |      | -   | 0     |
| suboperculum   |     |    |     |     | -   | -   |     | -   | -   | -   | _    | -   | 0     |
| Ceratohyal     | _   | _  | _   | -   |     |     | _   |     | _   | -   | _    |     | 0     |
| branchiostegal | -   | _  | _   | _   |     | -   | _   |     | _   | -   | -    | -   | 0     |
| cleithrum      | _   |    | _   | _   | -   |     | -   | _   |     | _   | -    | -   | 0     |
| cupracleithrum | -   | -  | _   | _   |     | -   | -   |     | -   | -   | **** | -   | 0     |
| nolvie         |     | _  | -   | -   | -   | -   | _   |     | -   | _   |      | _   | 0     |
| anal ntervaio  | _   | -  |     |     | -   | -   |     | -   | _   |     | _    |     | 0     |
| thoracic vert  | _   | -  | _   | 2.* |     |     | _   |     | -   | -   | ***  | -   | 2     |
| precaudal vert | _   | _  | -   | _   | ·   | _   |     | _   | _   |     | _    |     | 0     |
| caudal vert    | _   | _  | 2 × |     |     | -   | _   |     | _   | _   |      | _   | 2     |
| dorgal ray     | _   | _  | -   |     |     | _   |     |     | _   |     |      | -   | 0     |
| fragment       | -   |    |     | -   | -   | -   |     | -   |     |     | -    | 1   | 1     |
| TOTAL          | 0   | 0  | 2   | 2   | 0   | 0   | 0   | 0   | 0   | 0   | 0    | 1 × | 5     |

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TABLE A34

|                  | CAR | FW | EEL | HER | CON | HAD | COD | LIN | HAK | GAD | P/F   | UNF | TOTAL |
|------------------|-----|----|-----|-----|-----|-----|-----|-----|-----|-----|-------|-----|-------|
| cranial          |     |    |     |     |     |     |     | _   |     |     | _     |     | 0     |
| parasphenoid     | -   | -  | -   |     | -   | -   | -   |     | -   | -   |       | -   | 0     |
| premaxillary     | _   | -  | -   | -   | -   |     |     | -   | -   | -   |       | -   | 0     |
| maxillary        | _   | _  |     | _   | -   | -   |     | -   | -   |     | -     | -   | 0     |
| dentary          | -   |    | -   | -   | _   | -   |     | -   | -   |     | -     | -   | 0     |
| articular        | -   |    |     |     |     |     | -   | -   |     | -   | -     |     | 0     |
| hyomandibular    | -   |    |     | -   |     |     |     | -   | -   |     | -     | -   | 0     |
| suboperculum     | -   |    |     | -   | -   | -   | -   | -   |     | -   | -     |     | 0     |
| ceratohval       | -   |    |     |     | -   | -   | _   | -   | -   | -   | -     |     | 0     |
| branchiostegal   | -   |    | -   | -   | -   | -   |     | -   | -   | -   | ***** | -   | 0     |
| <i>cleithrum</i> |     |    |     | -   | -   |     |     | -   | -   | -   |       | -   | 0     |
| supracleithrum   | _   | -  | _   | -   | -   | -   |     | -   | -   | -   | ****  | -   | 0     |
| pelvis           | -   | _  | _   | -   | _   | -   |     |     |     | -   | -     |     | 0     |
| anal ntervaio    | _   | -  | -   | _   | -   | -   | -   |     | -   | -   | -     | -   | 0     |
| weberian vert    | -   | 1  | _   | -   | -   | -   | -   | -   |     |     | -     | -   | 1     |
| proceedal vert   |     |    | _   |     |     | -   |     |     | _   | -   | _     |     | 0     |
| gaudal vert      | -   | -  |     |     | _   |     | -   | _   | -   | -   | -     | 1×  | 1     |
| dorgal ray       |     | -  |     | _   |     | -   | ~   | -   |     | -   | -     |     | 0     |
| fragment         |     | _  | -   | -   | -   |     | -   | -   | -   | -   |       |     | 0     |
| a a deginera e   |     |    |     |     |     |     |     |     |     |     |       |     |       |
| TOTAL            | 0   | 1  | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0     | 1   | 2     |

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TABLE A35 FISH BONES UNSTRATIFIED PHASE 1

|                | CAR | FW | EEL | HER | CON | HAD | COD | LIN   | HAK | GAD | P/F | UNF   | TOTAL |
|----------------|-----|----|-----|-----|-----|-----|-----|-------|-----|-----|-----|-------|-------|
| cranial        |     |    |     |     |     | ,   |     | <br>~ | _   |     |     | _     | 0     |
| parasphenoid   |     | -  |     |     | -   |     |     | -     |     |     | -   | -     | 0     |
| premaxillary   | _   |    | -   | -   | -   |     |     |       |     |     | _   |       | 0     |
| maxillarv      | _   |    | _   | -   |     | -   |     | _     | -   | _   | _   | ***** | 0     |
| dentary        |     | -  | _   |     | _   |     | -   |       | -   | -   | _   | -     | 0     |
| articular      |     | _  | _   |     | -   | -   | -   |       | -   | -   | _   | -     | 0     |
| hyomandibular  |     | -  | _   |     | -   |     | -   |       | -   | -   | -   | -     | 0     |
| suboperculum   | _   | -  | -   | _   | -   | -   | -   | -     | -   | -   | -   | _     | 0     |
| ceratohval     |     | _  | _   |     | _   | _   | _   | -     | -   |     | -   |       | 0     |
| branchiostegal |     | _  |     | -   | _   | -   | -   | -     | -   |     | _   |       | 0     |
| cleithrum      | _   |    | -   | _   |     | _   |     | _     | -   | -   | -   | -     | 0     |
| supracleithrum |     |    | -   |     | -   | _   |     |       | +   | -   | -   | -     | 0     |
| nelvis         | _   |    |     |     |     | _   |     | -     |     | -   |     | -     | 0     |
| anal ptervoio  |     | _  | -   | -   |     | _   |     | _     |     | _   |     | -     | 0     |
| thoracic vert  | -   | -  | -   | 1×  | _   |     | _   | -     | _   | _   | _   | ****  | 1     |
| precaudal vert | -   |    | -   | -   |     | -   |     | -     | -   | -   | -   | -     | 0     |
| caudal vert    |     | _  | 2 > | ·   |     | _   | -   | _     | -   | _   | -   | 2×    | 4     |
| tooth          | 1×  | _  | _   |     | -   | -   | -   | -     | -   | -   |     | -     | 1     |
| fragment       | _   |    |     | -   | -   | -   | -   | -     | -   | -   | -   | 1     | 1     |
| TOTAL          | 1   | 0  | 2   | 1   | 0   | 0   | 0   | 0     | 0   | 0   | 0   | 3     | 7     |

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TABLE A36

FISH BONES PHASE 1C

|                 | CAR | FW | EEL | HER      | CON | HAD | COD | LIN | HAK | GAD      | P/F  | UNF         | TOTAL |
|-----------------|-----|----|-----|----------|-----|-----|-----|-----|-----|----------|------|-------------|-------|
| cranial         |     |    |     |          |     |     |     |     |     |          |      |             | 0     |
| parasphenoid    | _   | -  |     |          | _   |     | -   | _   | -   |          | _    | -           | 0     |
| premaxillary    | _   |    | -   | -        |     |     | _   | -   | -   | *****    | -    |             | 0     |
| maxillarv       |     | -  | -   |          |     | _   |     |     | _   | -        |      | -           | 0     |
| dentary         | _   |    |     | _        | _   |     | _   |     |     | <u> </u> | -    |             | 0     |
| articular       | _   | _  |     | -        | _   | -   |     | -   | -   |          | _    | -           | 0     |
| hyomandibular   | -   |    |     | -        | _   |     | _   |     |     | -        | _    | -14         | 0     |
| suboperculum    |     |    | _   | -        |     | _   | _   | -   | _   | -        |      | _           | 0     |
| coratohyal      | _   | _  |     |          |     | _   | -   | -   | _   |          | _    | -           | 0     |
| branchiostegal  | _   |    | _   | -        | _   |     | _   | -   |     | _        | _    |             | 0     |
| gloithrum       | _   |    |     | <u> </u> | _   |     | -   | _   |     | -        | _    |             | 0     |
| cupracloithrum  | _   |    | _   | _        | -   | -   | _   |     | _   | _        |      | _           | 0     |
| supraciercinium |     | _  |     | _        |     | _   | _   |     | -   |          |      | _           | 0     |
| pervis          | _   | _  | _   | _        |     | _   | _   |     | _   | _        |      | _           | Ō     |
| there are wort  | _   | _  | _   | _        |     | _   | _   |     | _   | _        | _    | _           | Ó     |
| unoracic vert   |     | -  |     | 1        | _   | _   | -   | _   | _   |          | _    | _           | 1     |
| precaudal vert  | -   | _  | _   | -<br>-   |     | _   | -   |     | _   | _        |      | _           | Ó     |
| Caudal Vert     | -   | _  |     | _        | _   |     | _   |     | _   | _        | **** | _           | Ő     |
| dorsal ray      | -   |    | _   | _        |     | _   |     |     | _   |          | _    | 2           | 2     |
| Iragment        | -   | -  | -   | -        | -   |     |     | -   | _   |          |      | <b>4</b> -4 | ~     |
| TOTAL           | 0   | 0  | 0   | 1        | 0   | 0   | 0   | 0   | 0   | 0        | 0    | 2           | 3     |

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### TABLE A37\* FISH BONES PHASE 2 NORTHERN PROPERTY

|                | CAR | FW   | EEL | HER | CON | HAD | COD | LIN | HAK | GAD | P/F | UNF | TOTAL |
|----------------|-----|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|
| Cranial        |     | <br> |     |     |     |     |     |     |     |     |     |     | 0     |
| parasphenoid   | _   |      | -   |     |     | -   | -   |     | -   | -   | -   |     | 0     |
| premaxillary   | -   | -    | -   | -   |     | -   | _   | -   | -   | _   | -   | -   | 0     |
| maxillary      | -   | -    | _   |     | -   | -   | _   |     |     | -   | -   |     | 0     |
| dentary        | -   |      | -   |     |     | -   | _   |     | -   | _   | -   |     | 0     |
| articular      | _   |      | -   | -   | -   | _   |     |     | _   | -   |     | 1   | 1     |
| hyomandibular  | -   |      | -   |     |     | -   |     | -   | -   |     |     | -   | 0     |
| suboperculum   | -   |      | -   | -   |     |     | -   |     |     | -   |     |     | 0     |
| Ceratohyal     | -   | -    |     | -   | -   |     | -   | -   |     | -   | _   | -   | 0     |
| branchiostegal |     | -    |     | -   | -   |     | -   | -   |     |     | -   | -   | 0     |
| cleithrum      | -   | -    |     | -   | -   |     |     | -   | -   |     | -   | -   | 0     |
| supracleithrum | -   | -    |     | -   | -   | -   | -   | -   | -   |     | -   | -   | 0     |
| pelvis         | -   | -    | -   | -   | -   | -   | -   | -   | -   | -   |     | -   | 0     |
| anal pterygio  |     | _    |     | -   |     | -   | -   |     | -   | -   | -   |     | 0     |
| thoracic vert  | -   | -    |     | -   | -   | -   | -   | -   |     | -   | -   |     | 0     |
| precaudal vert | +   | -    | -   | -   | -   | -   |     | -   |     |     | -   | -   | 0     |
| Caudal vert    |     | -    | -   | -   |     |     | -   | -   |     | -   | -   | -   | 0     |
| dorsal ray     | -   | _    | -   | -   | -   | -   | -   | ~   | -   | -   |     | -   | 0     |
| fragment       | -   |      |     | -   | -   | -   | -   |     | -   | -   | -   | -   | 0     |
| TOTAL          | 0   | 0    | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 0   | 1   | 1     |

\* No fish bones were retrieved from Phase 2 Southern Property

## TABLE A38 FISH BONES PHASE 3 SOUTHERN PROPERTY

|                | CAR      | FW | EEL | HER | CON | HAD | COD | LIN | HAK | GAD | P/F | UNF | TOTAL |
|----------------|----------|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|
| Cranial        |          |    |     |     | _   |     |     |     |     |     |     | _   | 0     |
| parasphenoid   |          | -  |     | -   |     | _   |     | -   | -   |     | -   | -   | 0     |
| premaxillary   |          | -  |     |     | _   | -   | -   |     | _   |     | _   |     | 0     |
| maxillary      | <u> </u> | -  |     | -   |     | _   | 1   |     | _   |     | _   |     | 1     |
| dentary        |          | -  | -   |     | -   | _   | -   |     | _   |     | -   |     | 0     |
| articular      |          | -  | -   | -   |     | -   | -   |     | -   | -   |     | -   | 0     |
| hyomandibular  |          |    | -   | -   | -   |     | -   | -   |     | -   |     | -   | 0     |
| suboperculum   | -        |    | -   | -   |     | -   | -   | -   | -   | -   | -   | -   | 0     |
| ceratohyal     | -        | -  | -   | -   | -   |     | -   | -   | -   | -   | -   | -   | 0     |
| branchiostegal | -        |    |     | -   | -   |     | -   | -   | -   | -   |     |     | 0     |
| cleithrum      | -        | -  |     | -   | -   |     | 1   | -   | -   | -   | -   | -   | 1     |
| supracleithrum | -        |    | -   | -   | -   |     | 1   | -   | -   | -   |     | -   | 1     |
| pelvis         |          | -  | -   | ~   | -   | -   | -   | -   | -   | -   | -   | -   | 0     |
| anal pterygio  | -        |    |     |     | -   |     | -   |     | -   | -   | -   | -   | 0     |
| thoracic vert  |          | -  | -   | -   | -   |     | -   | -   | -   |     | -   | -   | 0     |
| precaudal vert | -        | -  |     |     | -   | -   | -   | -   |     | -   | -   | -   | 0     |
| caudal vert    |          | -  | -   | -   |     |     | -   |     | -   |     | -   | -   | 0     |
| dorsal ray     | 1        |    | -   | -   |     | -   | -   | -   | -   |     | -   |     | 1     |
| fragment       | -        | -  | -   | -   | -   | -   |     | -   | -   |     | -   | -   | 0     |
| TOTAL          | 1        | 0  | 0   | 0   | 0   | 0   | 3   | 0   | 0   | 0   | 0   | 0   | 4     |

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# TABLE A39 FISH BONES PHASE 3 NORTHERN PROPERTY

|                | CAR          | FW | EEL | HER | CON | HAD | COD | LIN | HAK  | GAD   | P/F | UNF | TOTAL |
|----------------|--------------|----|-----|-----|-----|-----|-----|-----|------|-------|-----|-----|-------|
| cranial        |              |    |     |     |     |     |     |     |      | <br>1 | 1   |     | 2     |
| parasphenoid   | _            | -  |     |     |     |     | -   | _   | -    |       |     |     | 0     |
| premaxillary   |              | -  |     | -   |     | -   |     | _   | -    | -     | _   | -   | 0     |
| maxillary      | -            | -  | -   |     | -   |     |     |     |      | -     | -   |     | 0     |
| dentary        | -            | -  | -   | -   | -   | -   | -   | -   | -    | -     | -   | -   | 0     |
| articular      |              | -  | -   |     | -   | -   | -   |     | -    | -     |     |     | 0     |
| hyomandibular  |              |    | -   | -   | -   | -   | -   | -   | -    |       |     |     | 0     |
| quadrate       | -            | -  | -   |     |     |     |     |     | -    | -     | 1   | -   | 1     |
| ceratohyal     | ~            | -  | -   | -   | -   |     |     |     | **** |       | -   |     | 0     |
| branchiostegal | -            | -  |     | -   | 1   | _   | -   | -   | -    |       | -   |     | 1     |
| çleithrum      | -            |    | -   | -   | _   | -   | -   | 1   | -    | 1     |     | -   | 2     |
| supracleithrum | <del>~</del> |    |     | -   | -   | -   | -   |     |      |       |     |     | 0     |
| pelvis         | -            |    |     | -   | _   | -   | -   | -   | -    |       | -   |     | 0     |
| anal pterygio  | -            | -  |     |     | -   | -   | -   | -   | _    | -     | -   | -   | 0     |
| thoracic vert  | -            | -  | -   | -   |     | -   |     | -   | -    | -     | -   | -   | 0     |
| precaudal vert | -            | -  | -   |     |     |     |     |     |      | -     | -   | -   | 0     |
| Caudal vert    |              | -  | -   | -   | -   | -   | _   | -   | -    | -     | 2   |     | 2     |
| dorsal ray     | -            | -  |     | -   | -   | -   | -   | -   | -    | -     | -   | -   | 0     |
| fragment       | -            |    | -   | -   | -   | -   | -   | -   | -    | -     | -   | 3   | 3     |
| TOTAL          | 0            | 0  | 0   | 0   | 1   | 0   | 0   | 1   | 0    | 2     | 4   | 3   | 11    |

TABLEA40FISH BONESPHASE4SOUTHERNPROPERTY

|                | CAR | FW | EEL | HER | CON | HAD | COD | LIN  | HAK | GAD | P/F | UNF | TOTAL |
|----------------|-----|----|-----|-----|-----|-----|-----|------|-----|-----|-----|-----|-------|
| cranial        |     |    |     |     |     |     | -   | _    | _   |     | _   | -   | 0     |
| parasphenoid   |     | _  | -   | -   | -   |     | -   |      |     | -   |     | -   | 0     |
| premaxillary   |     |    |     |     |     |     | -   | -    |     | -   | -   | -   | 0     |
| maxillarv      |     |    |     | -   | -   | -   | -   | _    |     | -   | -   | -   | 0     |
| dentary        | _   | _  | -   |     | -   | _   |     | _    | -   | 1   | -   | -   | 1     |
| articular      |     | _  |     | -   | -   | -   | -   | **** |     | -   |     |     | 0     |
| hvomandibular  | _   | -  | -   | -   | -   | -   | -   |      | _   | -   | -   |     | 0     |
| suboperCulum   |     | -  |     | -   |     |     | -   |      | -   | -   |     | -   | 0     |
| ceratohyal     | -   |    |     | -   | -   | -   |     | -    | -   |     | -   | -   | 0     |
| branchiostegal | -   | -  | -   | -   | -   |     |     | -    | -   |     | -   |     | 0     |
| cleithrum      | _   |    |     |     | 1   |     | 1   | -    |     |     | -   | -   | 2     |
| supracleithrum | -   | _  | -   | -   | -   | -   | _   |      |     | -   | -   |     | 0     |
| pelvis         |     | -  | -   | -   |     | -   | _   | -    | -   | -   | -   |     | 0     |
| anal ptervgio  | -   |    |     | -   | -   | -   |     | -    | -   | -   | -   | -   | 0     |
| thoracic vert  | -   | _  |     |     |     | -   |     |      | -   | -   | -   | -   | 0     |
| precaudal vert | -   |    |     |     | -   | -   |     | -    | -   |     |     | -   | 0     |
| caudal vert    |     |    | -   | -   | -   | -   | _   | -    | 1   |     | -   | -   | 1     |
| dorsal rav     |     |    |     |     | -   | -   |     | -    | -   | -   |     | -   | 0     |
| fragment       | -   |    | -   | -   | -   |     |     | -    | -   |     | -   | -   | 0     |
| TOTAL          | 0   | 0  | 0   | 0   | 1   | 0   | 1   | 0    | 1   | 1   | 0   | 0   | 4     |

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TABLE A41FISH BONES PHASE 4NORTHERN PROPERTY

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|                | CAR          | FW | EEL            | HER | CON | HAD | COD | LIN | HAK | GAD | P/F | UNF | TOTAL |
|----------------|--------------|----|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------|
| Cranial        |              |    |                |     |     |     |     | _   |     | 1   |     | 1   | 2     |
| parasphenoid   | -            | -  |                | -   | -   | 1   | _   | -   | -   |     |     | -   | 1     |
| premaxillary   | -            | -  |                |     |     | -   | -   | -   | -   |     |     | -   | 0     |
| maxillary      | -            | -  | ° <del>-</del> | -   | _   | -   | -   | -   | -   |     | -   | -   | 0     |
| dentary        | -            |    | -              |     | -   | -   | -   | -   | -   | -   | _   | -   | 0     |
| articular      | -            | -  |                | -   | -   | -   | -   | -   |     | -   | _   | -   | 0     |
| hyomandibular  | -            |    | -              | -   |     | -   | -   | -   |     | -   | -   | 1   | 1     |
| suboperculum   | -            | -  | -              | -   |     | -   | -   | -   |     | -   | -   | -   | 0     |
| ceratohyal     | -            | -  | -              |     | -   | -   |     | -   | -   |     |     | -   | 0     |
| branchiostegal | -            |    | -              |     | -   |     | -   | -   | -   |     |     | -   | 0     |
| cleithrum      | -            | -  | -              | -   |     | -   | 1   | -   | -   | -   | 1   | 1   | 3     |
| supracleithrum | -            | -  | -              |     |     | -   |     |     | -   |     | ~~  | -   | 0     |
| pelvis         | -            | -  | -              | -   | -   | -   | -   |     | -   | -   |     |     | 0     |
| anal pterygio  | -            | -  | -              | -   |     | -   | -   |     | -   | _   | -   | -   | 0     |
| thoracic vert  | <del>_</del> | -  | _              |     | -   |     | -   | -   | -   | -   | -   | -   | 0     |
| precaudal vert | -            | -  | ~~             | -   |     |     | -   | 1   | -   |     | -   | _   | 1     |
| caudal vert    | -            |    | -              |     | -   | -   |     |     |     | -   | -   | 9   | 9     |
| rays           | -            |    | -              |     |     | -   |     |     |     | -   | -   | 10  | 10    |
| fragment       | -            | -  |                | -   | -   | -   | -   | -   | -   |     | -   | 1   | 1     |
| TOTAL          | 0            | 0  | 0              | 0   | 0   | 1   | 1   | 1   | 0   | 1   | 1   | 23  | 28    |

TABLE A42

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COMMON DOMESTIC UNGULATES GARDEN SOIL SCAN

|               | ጙ     |          |                 |     |        |        |       |
|---------------|-------|----------|-----------------|-----|--------|--------|-------|
|               | horse | cattle   | sheep           | pig | c-size | s-size | TOTAL |
| horn Core     | ·_    | 4        | 4               | -   |        | -      | 8     |
| Cranium       | -     | 24       | 3               | 8   |        | 1      | 36    |
| hyoid         | -     | -65      | 1               | -   | -      | -      | 1     |
| maxilla       | -     | 2        | 1               | 5   | -      |        | 8     |
| mandible      | 2     | 25       | 22              | 6   | -      | -      | 55    |
| ertebra       | 34    | 64       | 19              | 9   | 3      | -      | 129   |
| rib           | 35    | 96       | 56              | 5   | 25     | 37     | 254   |
| sternum       | 1     | -        | <b>-</b> ·      | -   |        | -      | 1     |
| scapula       | 2     | 22       | 19              | 6   | -      |        | 49    |
| humerus       | . 3   | 10       | 20              | 7   | 1      | -      | 41    |
| radius        | 2     | 16       | 19              | 4   | -      | -      | 41    |
| ulna          |       | 10       | 8               | 3   |        | _      | 21    |
| pelvis        | 1     | 18       | <sup>-</sup> 11 | 4   | _      | · –    | 34    |
| femur         | 3     | 22       | 12              | 5   | 1      |        | 43    |
| patella       | 2     | 3        | -               |     | -      | -      | 5     |
| tibia         | 2     | 17       | 29              | 7   |        | -      | 55    |
| bula          | -     | -        |                 | 3   | -      |        | 3     |
| carpal/tarsal | 21    | -        | 5               | -   | -      | _      | 26    |
| metapodial    | 11    | 17       | 42              | 7   | 1      | _      | 78    |
| phalanx       | 13    | 22       | 1               | 1   |        | 1      | 38    |
| loose teeth   | . 13  | 5        | 7               | 5   | -      | _      | 30    |
| 1.b.fragments | -     | <b>_</b> | ••••            | _   | 103    | 67     | 170   |
| fragments     | -     | -        | ~               |     | 28     | 1      | 29    |
| TOTAL         | 145   | 377      | 279             | 85  | 162    | 107    | 1155  |

\* 126 are from a single horse burial

TABLE A43 OTHER MAMMALIAN REMAINS GARDEN SOIL SCAN

|               | red       | fal | rab  | har | dog            | Cat | fer | TOTAL |
|---------------|-----------|-----|------|-----|----------------|-----|-----|-------|
|               |           |     |      |     |                |     |     |       |
| antler        | -         | 1   | -    | -   | -              |     | -   | 1     |
| Cranium       | -         | -   | árað | -   | 2              |     | -   | 2     |
| hyoid         | -         | -   | -    | -   | -              | -   |     | 0     |
| maxilla       | -         |     | -    |     |                | -   | -   | 0     |
| mandible      | -         | 1   | 1    |     | <del>-</del> . | -   | _   | 2     |
| ertebra       | -         | -   | 1    | -   | -              | -   | -   | 1     |
| rib           | -         | -   | 3    | -   | -              | -   | -   | 3     |
| sternum       |           | -   | -    | -   | -              | -   | -   | 0     |
| sCapula       | -         | 1   | 1    | -   | 1              |     | _   | 3     |
| humerus       | -         | -   | 3    | -   | 1              |     | 1   | 5     |
| radius        | 1         | -   | 2    | -   | 1              | ~   | -   | 4     |
| ulna          | ~         | -   | 1    | -   | 1              | -   | -   | 2     |
| pelvis        | -         | -   | -    |     |                | -   | 1   | 1     |
| femur         | 1         | -   | 1    | -   | 1              | 2   | 2   | 7     |
| patella       | -         | -   | -    | -   |                | -   | -   | 0     |
| †ibia         | -         | -   | 3    | 1   | 1              | -   | 2   | 7     |
| fibula        | -         | -   | -    | -   | -              | -   | -   | 0     |
| Carpal/tarsal | -         | 1   | -    | -   | -              | -   | 2   | 3     |
| metapodial    | -         |     | 1    | 1   | 2              | -   | 7   | 11    |
| phalanx       | -         | 1   |      | -   | -              | -   | -   | 1     |
| loose teeth   | <b>63</b> | -   | _    | -   | -              | -   | -   | 0     |
| 1.b.fragments | -         | -   |      | -   | -              | _   | -   | 0     |
| fragments     | -         | -   | -    | -   | -              |     | -   | 0     |
|               |           |     |      |     |                |     |     |       |
| TOTAL         | 2         | 5   | 17   | 2   | 10             | 2   | 15  | 53    |

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## TABLEA44BIRDBONESGARDENSOILSCAN

|          | FOW | GOO      | DOM | D/M | MOO | COR | WOO | PGN | JAC | C/R | RAV | THR  | PEA | OTH | TOTAL |
|----------|-----|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-------|
| skull    |     | <u>_</u> |     |     |     |     |     |     |     |     |     |      |     |     | 2     |
| vortobra | 3   | _        | _   | _   | _   | _   | _   | _   | _   | _   | _   |      | _   | _   | 2     |
|          | J   |          | _   | _   |     |     |     | 1   |     |     |     |      |     |     | 1     |
| sternum  |     | -        |     |     | -   | -   |     | 1   | -   | ~   | ~~  |      |     |     | 1     |
| furcula  | -   | -        |     | -   | -   | -   | -   | -   | *** |     | -   | -    | -   | -   | 0     |
| coracoid | 3   | 1        | -   | -   | -   | -   | -   | -   | -   | -   | -   | -    | -   | -   | 4     |
| sCapula  | 1   |          | -   | -   | -   | -   | -   |     | -   | -   |     | -    | -   | -   | 1     |
| humerus  | 3   | 1        | -   | -   |     | -   | -   | -   | -   | -   | -   | -    |     |     | 4     |
| radius   | 2   | 3        | -   | _   |     |     | -   | -   | -   |     |     | **** |     |     | 5     |
| ulna     | 6   | 2        | -   | -   | -   | -   | -   | -   | -   | -   | -   | -    | -   | -   | 8     |
| pelvis   | 1   |          | -   | _   | -   | -   | -   | -   | -   | -   | -   | -    | -   | -   | 1     |
| femur    | 1   | 1        | -   | -   | 1   |     | -   | 2   | -   | -   | -   |      | -   | -   | 5     |
| tib-tar  | 10  | 1        | -   |     | -   | -   | -   | -   |     |     |     |      | 1   | -   | 12    |
| carp-met | 1   | 4        |     | -   | -   | -   |     | -   |     |     | -   | -    | -   | -   | 5     |
| tar-met  | 3   | -        | -   | -   |     |     | -   | -   | _   | -   | -   | -    | -   | -   | 3     |
| phalanx  | 2   | 2        | -   |     | -   | -   | -   | -   | -8- |     | -   |      |     |     | 4     |
| other    | 1   | -        | -   | -   | _   | -   |     | -   | -   | -   |     | -    |     | 2   | 3     |
| TOTALS   | 38  | 15       | 1   | 0   | 1   | 0   | 0   | 3   | 0   | 0   | 0   | 0    | 1   | 2   | 61    |

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TABLE A45

FISH BONES GARDEN SOIL SCAN

|                | CAR | FW  | EEL | HER | CON | HAD | COD | LIN | GAD | GUR | P/F | UNF  | TOTAL |
|----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|-------|
| Cranial        | _   |     | -   | _   |     |     | _   |     | -   |     |     | _    | 0     |
| parasphenoid   | -   | -   |     | -   | _   | -   |     | -   | -   | -   | -   | -    | 0     |
| premaxillary   |     | -   | -   | -   | -   | -   |     | -   | -   | -   | -   | -    | 0     |
| maxillary      | -   | *** | _   | 1   | -   | -   |     |     |     |     |     |      | 1     |
| dentary        | -   |     | -   |     |     | _   | -   | -   | -   | -   |     | -    | 0     |
| articular      |     | -   |     | -   | -   | -   |     |     |     | -   |     |      | 0     |
| hyomandibular  |     |     |     | -   | -   | -   | -   | -   |     |     |     |      | 0     |
| operculum      | -   |     |     |     |     |     | -   | -   | -   | 1   | -   | -    | 1     |
| ceratohyal     | -   | -   |     | -   | -   |     | -   | -   | -   | -   | -   | -    | 0     |
| branchiostegal |     | -   |     | -   |     |     | -   | -   | -   | _   |     |      | 0     |
| cleithrum      |     | -   |     | -   | -   | -   | 1   | -   | 2   |     | -   | **** | 3     |
| postCleithrum  | -   | -   |     | 1   | -   | -   | -   |     | -   | -   | -   | -    | 1     |
| pelvis         | -   |     |     |     |     | -   | -   |     |     | -   | -   | -    | 0     |
| anal pterygio  | -   | -   |     | -   | -   | -   | _   | -   | -   |     | -   | -    | 0     |
| thoracic vert  | -   | -   | -   | 3   | -   | -   | -   |     | -   | -   | -   | -    | 3     |
| preCaudal vert | -   |     |     | 3   | -   | -   | -   | -   |     | -   | -   | -    | 3     |
| caudal vert    | -   | 1   | 3   | 13  | -   |     |     | -   | 1   |     | 1   | 4    | 23    |
| dorsal ray     |     | -   |     | -   | -   |     | -   | -   | -   | -   | *** |      | 0     |
| fragment       | -   | -   | -   |     | •=  | -   | -   | -   |     |     | -   | -    | 0     |
| TOTAL          | 0   | 1   | 3   | 21  | 0   | 0   | 1   | 0   | 3   | 1   | 1   | 4    | 35    |

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TABLE A46LARGE UNGULATE/SMALL UNGULATE RATIOS

|                       | CATTLE: PIG FRAGMENT NOS |                      |                                | LAR:SAR FRAGMENT NOS   |                         |                                  |
|-----------------------|--------------------------|----------------------|--------------------------------|------------------------|-------------------------|----------------------------------|
| phase                 | Cattle                   | pig                  | ratio                          | large ung              | small ung               | ratio                            |
| 1A<br>1B<br>1B?<br>1C | 96<br>77<br>45<br>267    | 52<br>38<br>14<br>98 | 1.8:1<br>2:1<br>3.2:1<br>2.7:1 | 117<br>68<br>39<br>224 | 187<br>184<br>30<br>276 | 1:1.6<br>1:2.7<br>1:0.8<br>1:1.2 |
| 1 TOTAL               | 485                      | 202                  | 2.4:1                          | 448                    | 677                     | 1:1.5                            |
| 2 south<br>2 north    | 82<br>98                 | 25<br>43             | 3.3:1<br>2.3:1                 | 37<br>31               | 70<br>52                | 1:1.9<br>1:1.7                   |
| 2 TOTAL               | 180                      | 68                   | 2.6:1                          | 68                     | 122                     | 1:1.8                            |
| 3 south<br>3 north    | 190<br>39                | 84<br>41             | 2.3:1<br>0.9:1                 | 118<br>40              | 128<br>108              | 1:1.1<br>1:2.7                   |
| 3 TOTAL               | 229                      | 125                  | 1.8:1                          | 158                    | 236                     | 1:1.5                            |
| 4 south<br>4 north    | 230<br>352               | 71<br>70             | 3.2:1<br>5:1                   | 240<br>186             | 179<br>204              | 1:0.7<br>1:1.1                   |
| 4 TOTAL               | 582                      | 141                  | 4.1:1                          | 426                    | 383                     | 1:0.9                            |
Measurements are given in millimetres and were taken with a vernier calliper to the nearest 0.1 mm according to the Ancient Monuments Laboratory's computer-based methods (Jones <u>et al</u> n.d.). They are largely based on the measurements taken by von den Driesch (v.d. Driesch 1976) and her abbreviations are used here.

Withers height estimates are included where possible and given in metres. Those from Cattle metapodials were Calculated using the mean values of Fock (Boessneck and v.d.Driesch 1974) otherwise methods were those recommended in that paper. The use of Matolsci's indices for the Calculation of Cattle withers heights from the other major limb bones is given for interest only so that Comparisons Can be made with other sites where these values were calculated. There are probably serious discrepancies between these and the Fock values (Prummel 1984).

All total lengths and important measurements are given but other measurements are only included in the summary if at least 5 examples are available in a grouping. The measurements included are from both Bartholomew Street

The measurements included are from both Bartholomew Street and Cheap street sites (see text for reasoning behind the amalgamation and the periodisation used).

|    | 10-11th C AD  | Bart St 1979 Period 1          |
|----|---------------|--------------------------------|
|    | 11-mid 14th C | Bart St 1974, 1979 Period 2-4, |
|    |               | Cheap St all phase 1           |
|    | 14-15th C AD  | Cheap St phase 2               |
| La | 14-17th C AD  | Bart St 1979 Period 5 & 6,     |
|    | ,             | Cheap St phase 3               |
|    | 17-18th C AD  | Bart St 1979 Period 7          |
|    |               | Cheap St phase 4               |

For groups of n=10 or more, standard deviations and coefficients of variation are Calculated.

Abbreviations used in the measurement summary are:

\*

n no. of specimens measured
 X mean (mm)
 s standard deviation (mm)

v Coefficient of variation  $(s/X) \times 100$  (%)

A few of the measurements taken are not actually in v.d.Driesch's manual but are standard measurements for other bones so that her abbreviations are used. In other cases however the reference is in a footnote, titles are reckoned to be selfexplanatory, or a diagram is given.

Measurements for the Commoner species only are included here. Where results are too few to warrant inClusion these can be referred to in the measurement printout or in their computerbased form.

\* In line with AML printouts and earlier work in Southampton the formula for standard deviation of the samples uses the denominator (n - 1).

| TABLE A47                        | ,                | MEASUREMENTS OF CATTLE                               | BONES                |              |              |  |
|----------------------------------|------------------|------------------------------------------------------|----------------------|--------------|--------------|--|
| PER.                             | n<br>-           | range                                                | x<br>-               | `S<br>-      | CV<br>       |  |
| HORN CORE                        | 3                |                                                      |                      |              |              |  |
| Greatest                         | Diameter         | Base                                                 |                      |              |              |  |
| 11-14<br>14-15<br>15-17          | 26<br>14<br>5    | 27.3 - 70.4<br>32.3 - 64.4<br>44.8 - 59              | 42.5<br>52.4<br>52.2 | 10.3<br>10.6 | 24.3<br>20.3 |  |
| Least Dia                        | ameter Ba        | se                                                   |                      |              |              |  |
| 11-14<br>14-15<br>15-17          | 26<br>12<br>5    | 26.5 - 53.9<br>23.7 - 52.9<br>34.9 - 50.6            | 35.4<br>41.1<br>41.8 | 7.1<br>9.9   | 20.0<br>24.1 |  |
| Length Ou                        | iter Curv        | ature                                                |                      |              |              |  |
| 11-14<br>14-15<br>15-17          | 11<br>4<br>1     | 66.6 - 143<br>82,85,118,260<br>120                   | 112                  | 24.3         | 21.7         |  |
| SCAPULA<br>Minimum J             | Length at        | Neck SLC                                             |                      |              |              |  |
| 11-14<br>14-15<br>15-17<br>17-18 | 3<br>1<br>3<br>3 | 33.3,42.2,49.5<br>44.8<br>48.2,49.4,57<br>45,48.8,54 |                      |              |              |  |
| Breadth d                        | of Glenoi        | .d BG                                                |                      |              |              |  |
| 11–14<br>14–15<br>15–17<br>17–18 | 6<br>1<br>3<br>2 | 37.2 - 43<br>39.3<br>45.1,45.8,48.1<br>49.5, 53.2    | 40.2                 |              |              |  |
| HUMERUS                          |                  |                                                      |                      |              |              |  |
| Smallest Breadth Diaphysis SD    |                  |                                                      |                      |              |              |  |
| 11-14<br>15-17<br>17-18          | 3<br>3<br>4      | 27.2,27.4,33<br>30.8,36.1,38<br>30.8,30.9,33.4(2)    |                      |              |              |  |
| Distal B                         | readth           | Bd                                                   |                      |              |              |  |
| <br>11-14<br>15-17<br>17-18      | 2<br>1<br>3      | 66.2,72.5.6<br>72.1<br>69.2,74.1,81                  |                      |              |              |  |

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| 5. <u></u> 7 | PER.                    | n<br>-        | range                                                 | x<br>-             | s<br>- | CV   |
|--------------|-------------------------|---------------|-------------------------------------------------------|--------------------|--------|------|
|              | Breadth c               | of Trochlea   | вт                                                    |                    |        |      |
|              | 11–14<br>17–18          | 1<br>3        | 68.3<br>66.5,67.2,71.4                                |                    |        |      |
|              | Distal De               | epth (Medial) | Dd                                                    |                    |        |      |
|              | 11-14<br>15-17<br>17-18 | 4<br>3<br>3   | 46.4,57.2,60.2,63<br>59.5,65.1,78.1<br>65.1,70.9,74.2 | .1                 |        |      |
|              | RADIUS                  |               |                                                       |                    |        |      |
| :            | Proximal                | Breadth       | Вр                                                    |                    |        |      |
|              | 11-14<br>15-17<br>17-18 | 8<br>4<br>5   | 50.6 - 77.9<br>72.7,81.4,81.6,90<br>72.5 - 87.1       | 65.8<br>.9<br>79.8 |        |      |
|              | Breadth                 | Proximal Face | et BFp                                                |                    |        |      |
|              | 11-14                   | 10            | 46.6 - 71.3<br>67.6.75.3.78.5.82                      | 62.2               | 7.5    | 12.0 |
|              | 17-18                   | 5             | 69 - 79.4                                             | 74.4               |        |      |
|              | Proximal                | Depth         | Dp                                                    |                    |        |      |
|              | 11–14<br>15–17          | 9<br>5        | 29 - 42.7<br>37.5 - 43.9                              | 36.0<br>42.1       |        |      |
|              | Shaft Br                | eadth at Ulna | ar Scar                                               |                    |        |      |
|              | 11-14<br>14-15<br>15-17 | 3<br>1<br>1   | 30.1,31.4,40.6<br>34.9<br>30.8                        |                    |        |      |
|              | Breadth                 | Distal Facet  | BFd                                                   |                    |        |      |
|              | 10-11<br>11-14          | 1<br>1        | 42.4<br>52.4                                          |                    |        |      |
|              | ULNA                    |               |                                                       |                    |        |      |
|              | Breadth                 | Coronoid Pro  | cess BPC                                              |                    |        |      |
|              | 11-14<br>15-17<br>17-18 | 7<br>2<br>2   | 35.5 - 41.7<br>35.5,40.8<br>43.9,49.2                 | 38.2               |        |      |
|              | PELVIS<br>Length c      | of Acetabulum | inC lip LA                                            |                    |        |      |
|              | 11–14<br>17–18          | 7<br>2        | 54.5 - 69.4<br>66,72.2                                | 63.3               |        |      |

| PER.                             | n<br>-            | range                                                                    | x           | s<br>-   | CV  |
|----------------------------------|-------------------|--------------------------------------------------------------------------|-------------|----------|-----|
| TIBIA                            |                   |                                                                          |             |          |     |
| Smallest                         | Breadth D         | iaphysis SD                                                              |             |          |     |
| 11-14<br>14-15<br>15-17<br>17-18 | 4<br>3<br>4<br>3  | 28.4,29.3,29.7,3<br>30.4,31.2,32.3<br>27.7,34.5,40.6,4<br>36.6,38.2,39.5 | 1.9<br>4    |          |     |
| Distal B                         | readth            | Bd                                                                       |             |          |     |
| 11-14<br>14-15<br>15-17<br>17-18 | 10<br>3<br>3<br>3 | 46.9 - 57.5<br>52.3,54.2,65.3<br>48,52.3,56.8<br>54.8,61.4,64.3          | 52.2        | 3.5      | 6.7 |
| Distal D                         | epth              | Dđ                                                                       |             |          |     |
| 11-14<br>14-15<br>15-17<br>17-18 | 8<br>3<br>2<br>1  | 35.5 - 43.8<br>37.4,40.6,50.5<br>34.2,38.6<br>45.6                       | 38.7        |          |     |
| CALCANEU                         | М                 |                                                                          |             |          |     |
| Greatest                         | Breadth           | GB                                                                       |             |          |     |
| 10-11<br>11-14<br>14-15<br>15-17 | 1<br>8<br>3<br>2  | 29.5<br>33.3 - 43.2<br>36.7,47,48.1<br>42.5,42.9                         | 36.9        |          |     |
| Diagonal                         | Length of         | Distal Process                                                           | (see diagr  | am below | )   |
| 11-14<br>14-15<br>15-17          | 6<br>2<br>4       | 38.5 - 47.5<br>43,48.2<br>45.6,48.2,50.6,5                               | 43.7<br>0.7 |          |     |
| ASTRAGAL                         | US                |                                                                          |             |          |     |
| Greatest                         | Length Lat        | ceral GLl                                                                |             |          |     |
| 11-14<br>14-15<br>17-18          | 18<br>1<br>1      | 54.4 - 63.3<br>61.7<br>69.2                                              | 57.4        | 2.2      | 3.8 |
| Distal B                         | readth            | Bd                                                                       |             |          |     |
| 11–14<br>14–15<br>15–17          | 19<br>1<br>1      | 32.8 - 39.5<br>41.2<br>40.7                                              | 35.6        | 1.9      | 5.4 |
| Lateral I                        | Depth             | ום                                                                       |             |          |     |
| 11-14                            | 15                | 29 - 35                                                                  | 31.4        | 1.4      | 4.5 |

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| Greatest  | Breadth      | GB                                  |         |
|-----------|--------------|-------------------------------------|---------|
| 11-14     | 4            | 42.1,45.1,47.7,49                   |         |
| METACARPO | JS           |                                     |         |
| Greatest  | Length       | GL                                  |         |
| 11_14     |              | 168.183 Fock withers height 1.0     | 8. 1.17 |
| 15-17     | 1            |                                     | 1       |
| 17–18     | 5            | 188 - 198 " " 1.2                   | 1-1.27  |
| Proximal  | Breadth      | Вр                                  |         |
| 11-14     | 8            | 42.8 - 58.4 50.2 4.6                | 9.2     |
| 14-15     | 1            | 61.6                                |         |
| 15–17     | 3            | 49.4,53.2,53.8                      |         |
| 17–18     | 12           | 52.1 - 65.5 $58.3$ $4.0$            | 6.9     |
| Proximal  | Depth        | Dp                                  |         |
| 11-14     | 8            | 26.3 - 32.9 29.9 3.0                | 10.0    |
| 14-15     | 1            | 39.2                                |         |
| 15–17     | 4            | 26.2,27.2,31.8,35.6                 |         |
| 17-18     | 11           | 29.9 - 39.3 34.4 2.5                | 7.2     |
| Smallest  | Breadth Dia  | physis SD                           |         |
| 11-14     | 5            | 23.2 - 31.6 27.2                    |         |
| 14-15     | 1            | 34.3                                |         |
| 15-17     | 3            | 26.4,27.7,28.9                      |         |
| 17–18     | 9            | 27.9 - 37.7 31.5 2.8                | 8.8     |
| Greatest  | Distal Brea  | dth Bd                              |         |
| 11-14     | 7            | 44.4 - 67.1 54.9 7.1                | 12.8    |
| 14-15     | 2            | 48.1,53.6                           |         |
| 15-17     | 6            | 47.5 - 62.9 53.6                    |         |
| 17-18     | 11           | 52.2 - 72.6 61.0 6.9                | 11.2    |
| Maximum D | Distal Depth | (usually max medial depth distal co | ondyle) |
| 11-14     | 3            | 28.5,30.4(2)                        |         |
| 14-15     | 1            | 27.1                                |         |
| 15-17     | 4            | 27.8,30.3,34.2,32                   |         |
| 17-18     | 9            | 28.4 - 38.0 32.8 3.3                | 10.0    |
| Maximum H | Breadth Dis  | tal Diaphysis DFB                   |         |
| 11-14     |              | 37.9 - 58.5 48.5 6.1                | 12-6    |
| 14-15     | 3            | 43.4,49.2,50.9                      |         |
| 15-17     | 6            | 45.1 - 58.2 49.3                    |         |
| 17-18     | 10           | 47.1 - 63.2 55.4 5.6                | 10.0    |

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| PER.                             | n<br>-            | range                                                     | x<br>-                     | s<br>T           | CV               |
|----------------------------------|-------------------|-----------------------------------------------------------|----------------------------|------------------|------------------|
| Bd/DFB                           | (above)           | ( an index of di                                          | stal splayi                | ing)             |                  |
| 11-14<br>14-15<br>15-17<br>17-18 | 7<br>2<br>6<br>10 | 1.08 - 1.18<br>1.09,1.11<br>1.05 - 1.13<br>1.05 - 1.16    | 1.13<br>1.09<br>1.10       |                  |                  |
| METATAR                          | SUS               |                                                           |                            |                  |                  |
| Greates                          | t Length          | GL                                                        |                            |                  |                  |
| 15-17<br>17-18                   | 2<br>2<br>2       | 194,240 FOCK W<br>226,232 "                               | ITHERS HEIO                | GHT 1.03<br>1.20 | ,1.28M<br>,1.24M |
| Proxima                          | l Breadth         | Вр                                                        |                            |                  |                  |
| 11-14<br>14-15<br>15-17<br>17-18 | 15<br>4<br>5<br>7 | 35.7 - 45.7<br>36.1 - 46.3<br>39 - 50.6<br>44.2 - 56.3    | 41.3<br>43<br>44.7<br>49.2 | 2.8              | 6.9              |
| Proxima                          | l Depth           | Dp                                                        |                            |                  |                  |
| 11-14<br>14-15<br>15-17<br>17-18 | 8<br>2<br>4<br>7  | 35.7 - 43.5<br>34.4,43.3<br>39.2,40.3,47,48.<br>43 - 53.6 | 39.0<br>.4<br>46.6         |                  |                  |
| Smalles                          | t Breadth Dia     | physis SD                                                 |                            |                  |                  |
| 11-14<br>14-15<br>15-17<br>17-18 | 7<br>1<br>5<br>7  | 18.3 - 26.6 $18.2$ $21.2 - 26.3$ $23.2 - 33$              | 21.7<br>23.7<br>26.6       |                  |                  |
| Distal                           | Breadth           | Bd                                                        |                            |                  |                  |
| 11-14<br>14-15<br>15-17<br>17-18 | 11<br>1<br>6<br>7 | 42.2 - 53.4<br>49.9<br>44.3 - 58.1<br>51 - 64.5           | 47.1<br>49.8<br>57.4       | 4.2              | 8.9              |
| Maximum                          | Distal Depth      | 1                                                         |                            |                  |                  |
| 11-14<br>14-15<br>15-17<br>17-18 | 10<br>1<br>6<br>8 | 23.2 - 30<br>27.8<br>23 - 29.9<br>29.8 - 35.4             | 26.2<br>27.0<br>32.6       | 2.0              | 7.8              |
|                                  |                   | at of                                                     |                            |                  |                  |

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| $(\cdot)$ | TABLE A48                   | MEASUREMENTS OF SH             | IEEP AND GOAT BONES |
|-----------|-----------------------------|--------------------------------|---------------------|
|           | PER. n                      | range                          | X S CV              |
|           | SHEEP HORN CORE             |                                |                     |
|           | Greatest Diamet             | er Base                        |                     |
|           | 11-14 male 6<br>11-14 fem 6 | 41.7 - 51.2<br>19.1 - 33.3     | 46.2<br>23.7        |
|           | Least Diameter              | Base                           |                     |
| :         | 11-14 male 6<br>11-14 fem 6 | 31.7 - 38<br>15.3 - 22.8       | 34.9<br>17.4        |
|           | GOAT HORN CORE              |                                |                     |
|           | Greatest Diamet             | er Base                        |                     |
|           | 11-14 male 4                | 48.7,53.9,55.2                 | 2,62.8              |
|           | 11-14 fem 2<br>11-14 ? 2    | 30.8,32<br>36.6,37.6           |                     |
|           | Least Diameter              | Base                           |                     |
|           | 11-14 male 4                | 33.7,34.4,36.2                 | 2,41.4              |
|           | 11-14 ? 2                   | 24.2,26.3                      |                     |
|           | SHEEP/GOAT MAND             | IBLE (M3 in wear)              |                     |
|           | Cheek Tooth Row             | . (7)                          |                     |
|           | 11-14 16                    | 57.6 - 71.7                    | 65.5 3.9 5.9        |
|           | 14-15 1<br>15-17 5          | 60.4<br>58.1 - 68.7            | 63.5                |
| х<br>-    | 17–18 3                     | 62.3,69,71.2                   |                     |
|           | Molar Row                   | (8)                            |                     |
|           | 11-14 20                    | 38.7 - 48                      | 44.5 2.1 4.8        |
|           | 15–17 3<br>17–18 3          | 43.8,44.3,44.<br>43.4,46.8,47. | 5                   |
|           | Premolar Row                | (9)                            |                     |
|           | 11–14 22                    | 16.6 - 24.8                    | 20.9 2.2 10.5       |
|           | 15–17 4<br>17–18 1          | 16.2,18.2,19.8<br>23.3         | 8,20.1              |
|           | Depth Before M1             | (15b)                          |                     |
|           | 11-14 27                    | 18.1 - 21.8                    | 20.2 1.3 6.5        |
|           | 15-1/ 4                     | 18.7,20.4,21.                  | 5,20.4              |

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| PER.           | n<br>-        | range                              | X<br>-  | s<br>- | CV<br>     |
|----------------|---------------|------------------------------------|---------|--------|------------|
| SHEEP SCAP     | PULA          |                                    |         |        |            |
| Height Alc     | ong Spine     | HS                                 |         |        |            |
| 11-14          | 2             | 132,144TeichertW                   | ithersH | eight  | 0.52,0.61M |
| Minimum Le     | ength at Neck | SLC                                |         |        |            |
| 11-14          | 20            | 15.6 - 21.8                        | 18.4    | 1.4    | 7.4        |
| 15-17<br>17-18 | 4<br>16       | 18,18.6,19,19.8<br>17.8 - 20.6     | 19.2    | 1.0    | 5.2        |
| Greatest I     | ength ArtiCu  | lation GLP                         |         |        |            |
| 11-14          | 14            | 27.9 - 31.4                        | 30.2    | 0.9    | 3.1        |
| 15–17<br>17–18 | 3<br>9        | 31,31.5(2)<br>24.3 - 33.3          | 29.8    | 3.0    | 10.2       |
| Length of      | Glenoid       | LG                                 |         |        |            |
| 11–14          | 16            | 21.8 - 26.3                        | 24.1    | 1.1    | 4.6        |
| 15–17<br>17–18 | 3<br>11       | 23.5,24.1,24.7<br>23.4 - 26.7      | 25.0    | 1.1    | 4.3        |
| Breadth of     | Glenoid       | BG                                 |         |        |            |
| 11-14          | 14            | 17 - 20.3                          | 18.5    | 1.0    | 5.4        |
| 15-17<br>17-18 | 4<br>11       | 19.4,20.3,20.5,23.8<br>17 - 20.6   | 19.1    | 1.1    | 5.6        |
| SHEEP HUME     | RUS           |                                    |         |        |            |
| Smallest H     | Breadth Diaph | ysis SD                            |         |        |            |
| 11-14          | 16            | 11.4 - 15.1                        | 13.6    | 0.9    | 6.7        |
| 15–17<br>17–18 | 4<br>10       | 12.6,13.2,15.3,15.7<br>11.8 - 14.8 | 13.4    | 0.9    | 6.8        |
| Distal Bre     | eadth         | Bd                                 |         |        |            |
| <br>11-14      | 22            | 24.9 - 29.9                        | 27.9    | 1.6    | 5.6        |
| 14-15<br>15-17 | 1<br>8        | 29.7<br>26.4 - 30.2                | 28.2    |        |            |
| 17-18          | 15            | 25.9 - 31.6                        | 28.6    | 2.0    | 6.9        |
| Greatest 1     | Breadth Troch | lea BT                             |         |        |            |
| 11-14          | 23            | 22.6 - 28.4                        | 26.5    | 1.2    | 4.4        |
| 14-15          | 8             | 25 - 29.1                          | 26.7    | 1 -    | 57         |
| 17-18          | 15            | 24.1 - 29.3                        | 20.5    | 1.5    | J ∎ /      |

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| PER.                             | n<br>-            | range                                                | x                          | s<br>-                              | CV<br>            |
|----------------------------------|-------------------|------------------------------------------------------|----------------------------|-------------------------------------|-------------------|
| Distal De                        | pth (media        | lly) Dd                                              |                            |                                     |                   |
| 11-14                            | 24                | 21.1 - 26.3                                          | 23.8                       | 1.2                                 | 5.2               |
| 14-15<br>15-17<br>17-18          | 6<br>14           | 23.2 - 26.8<br>21.2 - 27.2                           | 24.4<br>23.7               | 1.2                                 | 5.2               |
| SHEEP RAD                        | IUS               |                                                      |                            |                                     |                   |
| Greatest :                       | Length            | GL                                                   |                            |                                     |                   |
| 11-14<br>15-17<br>17-18          | 3<br>5<br>2       | 134,153,158 Te<br>130 - 145<br>130,144               | eichert WH<br>137 WH<br>WH | 0.43,0.49<br>0.42 - 0.<br>0.42,0.46 | ,0.51<br>47       |
| Proximal                         | Breadth           | Вр                                                   |                            |                                     |                   |
| 11-14<br>15-17<br>17-18          | 17<br>9<br>9      | 26.4 - 31.7<br>26.7 - 32.3<br>25.6 - 31.1            | 28.9<br>29.8<br>29.8       | 1.5                                 | 5.2               |
| Breadth P                        | roximal Fa        | cet BFp                                              |                            |                                     |                   |
| 11-14<br>15-17<br>17-18          | 18<br>9<br>9      | $\begin{array}{rrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrrr$ | 26.6<br>27.2<br>27.4       | 1.3                                 | 4.9               |
| Proximal                         | Depth             | Dp                                                   |                            |                                     |                   |
| 11-14<br>15-17<br>17-18          | 18<br>10<br>10    | 13.5 - 16.4<br>13.5 - 17<br>14.5 - 16.4              | 14.8<br>15.1<br>15.6       | 0.9<br>1.1<br>1.9                   | 6.2<br>7.6<br>4.2 |
| Breadth a                        | t Ulnar SC        | ar                                                   |                            |                                     |                   |
| 10-11<br>11-14<br>15-17<br>17-18 | 1<br>19<br>8<br>7 | 16.7<br>14.7 - 17.6<br>14.7 - 19.8<br>15.6 - 18.6    | 16.1<br>16.6<br>16.9       | 0.9                                 | 5.9               |
| Distal Br                        | eadth             | Bd                                                   |                            |                                     |                   |
| 11–14<br>15–17<br>17–18          | 11<br>6<br>3      | 21.1 - 28.6<br>24.7 - 28.2<br>26.2,27.5,27.6         | 25.9<br>26.5               | 2.1                                 | 8.2               |
| Breadth D                        | istal Face        | et BFd                                               |                            |                                     |                   |
| 11-14<br>15-17<br>17-18          | 11<br>6<br>3      | 18.7 - 24.1<br>21 - 24.6<br>21.5,22.6,22.8           | 21.5<br>22.9               | 1.4                                 | 4.6               |

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| $\sum$ | PER.                    | n<br>-          | range                                                 | -<br>X<br>-         | s<br>-     | CV         |  |  |
|--------|-------------------------|-----------------|-------------------------------------------------------|---------------------|------------|------------|--|--|
|        | SHEEP ULI               | AN              |                                                       |                     |            |            |  |  |
|        | Depth Pro               | ocessus Anc     | onaeus DPA                                            |                     |            |            |  |  |
|        | 11–14<br>15–17<br>17–18 | 6<br>4<br>3     | 22.6 - 26.7<br>21.2,23.3,23.6,23<br>24.7,27.7,28.1    | 24.1<br>3.8         |            |            |  |  |
|        | Breadth (               | Coronoid Pr     | ocess BPC                                             |                     |            |            |  |  |
| `      | 11-14<br>15-17<br>17-18 | 7<br>4<br>7     | 15.6 - 16.9<br>16.3,16.5,17.3,18<br>17.5 - 19.2       | 16.2<br>3.7<br>18.4 |            |            |  |  |
|        | SHEEP/GO                | AT OS COXA      |                                                       |                     |            |            |  |  |
|        | Length o                | f Acetabulu     | m inc lip LA                                          |                     |            |            |  |  |
|        | 11-14<br>15-17<br>17-18 | 11<br>4<br>4    | 21.8 - 29.1<br>26.5,28.1,28.7,30<br>25.7,26.8,27.7,28 | 26.0<br>0.1<br>8.4  | 2.1        | 8.1        |  |  |
|        | SHEEP/GO                | AT TIBIA        |                                                       |                     |            |            |  |  |
|        | Smallest                | Breadth Di      | aphysis SD                                            |                     |            |            |  |  |
|        | 11–14<br>14–15          | 26<br>2         | 11.7 - 15<br>13.6,14.1                                | 13.4                | 0.6        | 4.9        |  |  |
|        | 15-17<br>17-18          | 9<br>10         | 13.3 - 14.7<br>11.8 - 14.5                            | 13.5<br>13.6        | 0.5        | 3.6<br>7.1 |  |  |
|        | Distal B                | readth          | Bđ                                                    |                     |            |            |  |  |
|        | 11-14                   | 29              | 22 - 26.2                                             | 24.3                | 0.9        | 4.1        |  |  |
|        | 15–17<br>17–18          | 9<br>10         | 19.2 - 25.7<br>22.3 - 26                              | 23.6<br>24.8        | 1.9<br>1.2 | 8.0<br>4.7 |  |  |
|        | Distal D                | Distal Depth Dd |                                                       |                     |            |            |  |  |
|        | 11-14                   | 25              | 16.9 - 20.3                                           | 18.6                | 0.9        | 5.2        |  |  |
|        | 14-15<br>15-17<br>17-18 | 2<br>7<br>7     | 17.1 - 20.1<br>17.6 - 20.9                            | 19.0<br>19.1        |            |            |  |  |
|        | SHEEP/GO                | AT CALCANEU     | IM                                                    |                     |            |            |  |  |
|        | Greatest                | Length          | GL                                                    |                     |            |            |  |  |
|        | 11–14<br>15–17<br>17–18 | 4<br>2<br>1     | 50.3,51.7,52.6,5<br>50.5,55.4<br>51                   | 7.4                 |            |            |  |  |

| PER.                             | n<br>-             | range                                             | -<br>X<br>-                | s<br>-                      | CV                    |
|----------------------------------|--------------------|---------------------------------------------------|----------------------------|-----------------------------|-----------------------|
| Greatest                         | Breadth            | GB                                                |                            |                             |                       |
| 11-14<br>15-17<br>17-18          | 5<br>2<br>1        | 15.7 - 21.2<br>19.1,19.9<br>15.7                  | 17.4                       |                             |                       |
| Diagonal                         | Length of Dis      | tal Process                                       | (see diagram for           | r <b>c</b> attle            | )                     |
| 11–14<br>15–17<br>17–18          | 5<br>2<br>1        | 18.6 - 20.5<br>18.8,19.7<br>18.5                  | 19.5                       |                             |                       |
| SHEEP MET                        | TACARPUS           |                                                   |                            |                             |                       |
| Greatest                         | Length             | GL                                                |                            |                             |                       |
| 11–14<br>15–17<br>17–18          | 1<br>5<br>10       | 110<br>100 - 120<br>99 - 116                      | TEICHERT<br>109 "<br>107 " | WH 0.54<br>" 0.49<br>" 0.48 | M<br>-0.59M<br>-0.57M |
| Proximal                         | Breadth            | Вр                                                |                            |                             |                       |
| 11-14<br>14-15<br>15-17<br>17-18 | 19<br>1<br>9<br>19 | 18.8 - 22.8<br>19.7<br>18.8 - 22.8<br>19.3 - 23.7 | 21.3<br>20.7<br>20.9       | 1.0<br>1.6<br>1.2           | 4.7<br>7.6<br>5.7     |
| Proximal                         | Depth              | Dp                                                |                            |                             |                       |
| 11-14<br>14-15<br>15-17<br>17-18 | 10<br>1<br>9<br>17 | 15.1-17.1<br>14.5<br>13 - 16.3<br>10.9 - 16.6     | 15.9<br>14.9<br>14         | 0.6<br>1.2<br>1.7           | 4.2<br>8.0<br>12.1    |
| Smallest                         | Breadth Diag       | ohysis SD                                         |                            |                             |                       |
| 11-14<br>14-15<br>15-17<br>17-18 | 22<br>1<br>7<br>10 | 9.9 - 14.6<br>12.1<br>12.1 - 14.4<br>11.6 - 12.9  | 12.9<br>13.0<br>12.2       | 0.9<br>4.2                  | 7.2<br>3.5            |
| Distal B                         | readth             | Bd                                                |                            |                             |                       |
| 11-14<br>14-15<br>15-17<br>17-18 | 24<br>1<br>5<br>12 | 21.4 - 25.4<br>24.3<br>22.8 - 26<br>21.2 - 25.5   | 23.5<br>24.5<br>22.9       | 1.1<br>1.2                  | 4.9<br>5.3            |
| Maximum 1                        | Distal Depth       | (max medial                                       | depth distal co            | ndyle)                      |                       |
| 11–14<br>15–17<br>17–18          | 19<br>5<br>11      | 13.7 - 16.5<br>13.9 - 15.7<br>13.3 - 14.6         | 14.7<br>14.9<br>14.1       | 0.7                         | 4.6<br>2.9            |

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| PER. n                                               | range                                                  | X<br>-                                | s CV                                              |
|------------------------------------------------------|--------------------------------------------------------|---------------------------------------|---------------------------------------------------|
| SHEEP METATARSUS                                     |                                                        |                                       |                                                   |
| Greatest Length                                      | GL                                                     |                                       |                                                   |
| 11-14 1<br>14-15 2<br>15-17 5<br>17-18 19            | 130<br>112,121<br>100 - 120<br>107 - 133               | TEICHERT W<br>"""<br>112 ""<br>119 "" | H 0.59M<br>0.51,0.55M<br>0.45-0.54M<br>0.48-0.60M |
| Proximal Breadth                                     | Вр                                                     |                                       |                                                   |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 17.8 - 20.3<br>18.9<br>16.2 - 19.7<br>16.7 - 20.4      | 19<br>18.5<br>18.8                    | 0.8 4.1<br>0.9 4.8                                |
| Proximal Depth                                       | Dp                                                     |                                       |                                                   |
| 11-14 9<br>14-15 2<br>15-17 7<br>17-18 26            | 17.7 - 19.6<br>17.5,18.2<br>15.9 - 20<br>16.9 - 20     | 18.8<br>18.6<br>18.5                  | 0.7 3.2<br>0.9 4.8                                |
| Smallest Breadth Diaph                               | nysis SD                                               |                                       |                                                   |
| 11-14 21<br>14-15 4<br>15-17 7<br>17-18 28           | 9.9 - 12.9<br>10.6,10.7,11<br>9.8 - 11.4<br>9.2 - 12.1 | 11.4<br>.4,11.9<br>11.1<br>10.7       | 0.8 7.0<br>0.8 7.6                                |
| Distal Breadth                                       | Bd                                                     |                                       |                                                   |
| 11-14 20<br>14-15 3<br>15-17 7                       | 21.4 - 24.3<br>19.8,21,21.8<br>19.6 - 23.6             | 22 <b>.</b> 8<br>22 <b>.</b> 1        | 0.8 3.7                                           |

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TABLE A49

| PER                     | n<br>-       | range                        | <del>x</del><br>- | S<br>- | CV<br> |
|-------------------------|--------------|------------------------------|-------------------|--------|--------|
| MAXILLA                 |              |                              |                   |        |        |
| Length M3               | (30)         |                              |                   |        |        |
| 11-14<br>15-17          | 1<br>1       | 30<br>31.5                   |                   |        |        |
| MANDIBLE                |              |                              |                   |        |        |
| Length M3               | (10)         |                              |                   |        |        |
| 11-14<br>15-17<br>17-18 | 2<br>1<br>2  | 29.3,33<br>30.8<br>36.4,38.2 |                   |        |        |
| HUMERUS                 |              |                              |                   |        |        |
| Smallest Bre            | eadth Diaphy | ysis SD                      |                   |        |        |
| 11–14<br>14–15          | 5<br>1       | 13.6 - 15.7<br>16.2          | 14.7              |        |        |
| 15–17<br>17–18          | 1<br>3       | 16.5<br>15.7,16.4,18         |                   |        |        |
| Distal bread            | lth          | Bd                           |                   |        |        |
| 11-14                   | 7            | 36.5 - 45.1                  | 39.2              |        |        |
| 14-15<br>15-17<br>17-18 | 2            | 38.2,38.4<br>38.41(2)        |                   |        |        |
| Breadth of 5            | Frochlea     | BT                           |                   |        |        |
| 11-14                   | 6            | 28 - 32.1                    | 29.6              |        |        |
| 14–15<br>15–17          | 2<br>2       | 28.6 (2)<br>31,3,38.3        |                   |        |        |
| 17-18                   | 3            | 30.9,31.5,35.6               |                   |        |        |
| Distal Depti            | n (medially  | -<br>-                       |                   |        |        |
| 11–14<br>14–15          | 3<br>2       | 35.7,37.8,39.8<br>37.8,38.6  | 37.8              |        |        |
| 15–17<br>17–18          | 2<br>3       | 31.3,38.3<br>31.7,35.5,39.2  |                   |        |        |
| RADTUS                  |              |                              |                   |        |        |
| UUDIOD                  | 4-3-         | <b>A</b> T                   |                   |        |        |
| Greatest Le             | ngtn<br>     | ц                            |                   |        |        |

15-17 1 144 Teichert WH 0.76

| PER                     | n<br>-       | range                                         | x            | S<br>-    | cv<br> |
|-------------------------|--------------|-----------------------------------------------|--------------|-----------|--------|
| Proximal                | Breadth      | Вр                                            |              |           |        |
| 11-14<br>15-17<br>17-18 | 2<br>3<br>3  | 26.1,26.2<br>28.3,29.5,33.4<br>24.3,26.1,27.8 |              |           |        |
| ULNA                    |              |                                               |              |           |        |
| Depth Pr                | ocessus Anco | onaeus DPA                                    |              |           |        |
| 11-14<br>15-17<br>17-18 | 8<br>3<br>3  | 26.9 - 33.6<br>29.9,31.8,35<br>36.3,37.2,39.3 | 30.2         |           |        |
| Breadth                 | Coronoid Pr  | ocess BPC (mature                             | e but not r  | neC. fuse | ed)    |
| 11–14<br>14–15<br>15–17 | 10<br>1<br>7 | 16.5 - 22.4<br>20.6<br>18.9 - 24              | 19.2<br>21.4 | 1.6       | 8.2    |
| OS COXA                 |              |                                               |              |           |        |
| Maximum                 | Length Aceta | abulum on Rim                                 |              |           |        |
| 11-14<br>15-17<br>17-18 | 2<br>1<br>2  | 28.5,31<br>30.4<br>31,35.9                    |              |           |        |
| Breadth                 | of Acetabulu | um on Rim (at right                           | angles to    | above)    |        |
| 11-14<br>17-18          | 2<br>1       | 28.3,31<br>32                                 |              |           |        |
| TIBIA                   |              |                                               |              |           |        |
| Smallest                | Breadth Dia  | aphysis SD                                    |              |           |        |
| 11-14<br>14-15<br>17-18 | 3<br>2<br>1  | 16,17.6,19.7,<br>18.9,19.3<br>21              |              |           |        |
| Distal B                | readth       | Bd                                            |              |           |        |
| 11–14<br>14–15          | 3<br>2       | 25.4,28.8,30.3<br>27.7,29.6                   |              |           |        |
| Distal D                | epth         | Dđ                                            |              |           |        |
| 11–14<br>14–15          | 3<br>2       | 23,25.4,27.8<br>25.7,26.6                     |              |           |        |

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TABLE A50

| Per.        | n           | range                           | Х    | S   | CV  |
|-------------|-------------|---------------------------------|------|-----|-----|
|             |             |                                 | _    | _   |     |
|             |             |                                 |      |     |     |
| COPACOTO    |             |                                 |      |     |     |
| CORACOID    |             |                                 |      |     |     |
| <b>C</b>    |             | C.T.                            |      |     |     |
| Greatest Le | ngtn        | GГ                              |      |     |     |
|             |             |                                 | - 4  |     |     |
| 11-14       | 7           | 46.2 - 57.4                     | 51.0 |     |     |
| 14-15       | 2           | 57.2,61.1                       |      |     |     |
| 15-17       | 6           | 47.1 - 64.2                     | 56.2 |     |     |
| 17-18       | 1           | 53.4                            |      |     |     |
|             | •           |                                 |      |     |     |
| Modial Tang | th          | Тм                              |      |     |     |
| mediai beng |             | T1147                           |      |     |     |
|             |             |                                 |      |     |     |
| 11-14       | 8           | 43.5 - 54.6                     |      |     |     |
| 14-15       | 1           | 59                              |      |     |     |
| 15-17       | 6           | 44.9 - 61.7                     |      |     |     |
| 17-18       | 1           | 50.3                            |      |     |     |
|             | •           |                                 |      |     |     |
| Decel Deced | <b>4</b> h  | Db                              |      |     |     |
| Basai Bread | LII         | D CC                            |      |     |     |
|             | •••• •••    |                                 |      |     |     |
| 11-14       | 8           | 12.4 - 15.9                     | 13.9 |     |     |
| 14-15       | 1           | 16.4                            |      |     |     |
| 15-17       | 3           | 14.2 - 17.8                     |      |     |     |
| 17_18       | 2           | 13 7 14 3                       |      |     |     |
| 17-10       | 2           | 13.1114.5                       |      |     |     |
| D 111 D     |             |                                 |      |     |     |
| Breadth Bas | al Articula | r Facles BF                     |      |     |     |
|             | ~~~~~~~~~   | ***                             |      |     |     |
| 11-14       | 11          | 11.4 - 14.6                     | 11.5 | 1.1 | 9.4 |
| 14-15       | 1           | 13.2                            |      |     |     |
| 15-17       | 6           | 9.2 - 14.5                      | 12.6 |     |     |
| 17_18       | 2           | 11 2.12.1                       |      |     |     |
| 17-10       | 2           | 1 1 <b>4 4 4</b> 1 <b>4 4</b> 1 |      |     |     |

## HUMERUS

| Greatest                         | Length                | GL                                                                |              |
|----------------------------------|-----------------------|-------------------------------------------------------------------|--------------|
| 11–14<br>14–15<br>15–17<br>17–18 | 4<br>3<br>4<br>5      | 59.6,64.7,75.3(2)<br>68.4,72.8,83.9<br>75.1 - 81.1<br>65.9 - 76.9 | 78.4<br>71.2 |
| Proximal                         | Breadth               | Вр                                                                |              |
| 11–14<br>14–15<br>15–17<br>17–18 | 5<br>2<br>5<br>5<br>5 | 16.7 - 20.4<br>19.8,21.4<br>19.9 - 23.1<br>19.1                   | 21.7         |
| Smalleet                         | Breadth               | Corpus SC                                                         |              |

| Smarrest | Breauth | Corpus SC |     |
|----------|---------|-----------|-----|
| 11-14    | 7       | 6.2 - 8   | 6.9 |
| 14-15    | 3       | 6.6,7.2,9 |     |
| 15–17    | 5       | 6.5 - 8.8 | 7.7 |
| 17-18    | 8       | 6.2 - 7.5 | 6.9 |

| Per.                             | n<br>-           | range                                                           | -<br>X<br>-  | s<br>- | CV<br> |
|----------------------------------|------------------|-----------------------------------------------------------------|--------------|--------|--------|
| Distal Bread                     | lth              | Bd                                                              |              |        |        |
| 11-14<br>14-15<br>15-17<br>17-18 | 7<br>3<br>9<br>8 | 13.2 - 16.1<br>14.6,14.9,17.3<br>13.8 - 18.17<br>14.1 - 15.9    | 16.3<br>15.1 |        |        |
| RADIUS                           |                  |                                                                 |              |        |        |
| Greatest Le                      | ngth             | GL                                                              |              |        |        |
| 11-14<br>14-15<br>15-17<br>17-18 | 4<br>2<br>8<br>3 | 56.5(2),60.2,65.1<br>56.5,65.6<br>56.4 - 74.5<br>70.4,70.6,75.8 | 64.6         |        |        |
| ULNA                             |                  |                                                                 |              |        |        |
| Greatest Le                      | ngth             | GL                                                              |              |        |        |
| 10–11<br>11–14                   | 1<br>5           | 60.1<br>59.3 - 79.2                                             | 68.9         |        |        |
| Proximal Bre                     | eadth            | Вр                                                              |              |        |        |
| 10–11<br>11–14                   | 1<br>7           | 7.5<br>7.1 - 9.8                                                | 8.2          |        |        |
| Minimum Brea                     | adth Corpus      | SC                                                              |              |        |        |
| 10–11<br>11–14                   | 1<br>7           | 3.8<br>3.4 - 4.7                                                | 4.1          |        |        |
| Distal Diago                     | onal             | Did ·                                                           |              |        |        |
| FEMUR                            |                  |                                                                 |              |        |        |
| Greatest Lei                     | ngth             | GL                                                              |              |        |        |
| 11-14<br>14-15<br>15-17<br>17-18 | 7<br>2<br>1<br>3 | 63.1 83.7<br>84.3,88.8<br>82.9<br>74.2,77.5,84.9                | 72.6         |        |        |
|                                  |                  |                                                                 |              |        |        |

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| Medial Lo | ength | LM          |      |
|-----------|-------|-------------|------|
| 11-14     | <br>7 | 61.5 - 78.5 | 68.3 |
| 14-15     | 2     | 78.5,82.5   |      |
| 15-17     | 1     | 78.5        |      |
| 17-18     | 2     | 69.1,73.9   |      |
|           |       |             |      |

| Per. n                                           |                   | range                                                       | -<br>X<br>-  | S<br> | CV   |
|--------------------------------------------------|-------------------|-------------------------------------------------------------|--------------|-------|------|
| Proximal Bre                                     | adth              | Вр                                                          |              |       |      |
| 11 – 14<br>14 – 15<br>15 – 17<br>17 – 18         | 10<br>3<br>6<br>2 | 13.5 - 17.3<br>17.2,18,18.8<br>14 - 18.6<br>19,19.8         | 15.1<br>16.2 | 1.6   | 10.3 |
| Proximal Dep                                     | th                | Dp                                                          |              |       |      |
| 11 – 14<br>14 – 15<br>15 – 17<br>17 – 18         | 9<br>3<br>5<br>1  | 8.6 - 11.5<br>11.1,11.8,12<br>8.7 - 11.4<br>8.8             | 9.6<br>10.1  |       |      |
| Smallest Bre                                     | adth Corpus       | s SC                                                        |              |       |      |
| 11-14<br>14-15<br>15-17<br>17-18                 | 11<br>2<br>6<br>3 | 5.4 - 7.4<br>7.9,8<br>5.7 - 8.2<br>5.9,6.6,7.6              | 6.1<br>6.8   | 0.6   | 9.2  |
| Distal Bread                                     | th                | Bd                                                          |              |       |      |
| 11-14<br>14-15<br>15-17                          | 9<br>2<br>4       | 12.1 - 16.7<br>16.6,16.7<br>14.1,15.4,16.5,17.6             | 14.0         | 2.4   | 17.2 |
| Distal Depth                                     |                   | Dđ .                                                        |              |       |      |
| 11-14<br>14-15<br>15-17<br>17-18                 | 7<br>2<br>3<br>2  | 10.7 - 13.6<br>13,13.9<br>12.4,13.9,14.9<br>12.7,15.2       | 11.8         |       |      |
| TIBIOTARSUS                                      |                   |                                                             |              |       |      |
| Greatest Len                                     | gth               | GL                                                          |              |       |      |
| 11-14<br>14-15<br>15-17<br>17-18<br>Axial Length | 4<br>2<br>4<br>1  | 97,99.4,117(2)<br>121,130<br>97.3,99.5,124.127<br>112<br>LA |              |       |      |
| 11-14<br>14-15<br>15-17<br>17-18                 | 4<br>2<br>4<br>1  | 93.5,96.1,113(2)<br>118,124<br>93.7,95.3,118.122<br>108     |              |       |      |
| Proximal Dia                                     | gonal             | Dip                                                         |              |       |      |
| 11–14<br>14–15<br>15–17<br>17–18                 | 8<br>2<br>4<br>2  | 16.9 - 22.2<br>22.6,23.8<br>1.7.5,18.3,23.6,24.3<br>19,19.8 | 19.0         |       |      |

| Proximal Br                      | eadth                    | (Bacher 1967)                                           |          |      |      |
|----------------------------------|--------------------------|---------------------------------------------------------|----------|------|------|
| 11-14<br>14-15<br>15-17<br>17-18 | 10<br>2<br>4<br>1        | 10.6 - 14.6<br>14.5,15.5<br>11.2,12.7,14.9,15.6<br>13.3 | 12.4     | 1.3  | 10.5 |
| Smallest Br                      | eadth Corpu              | s SC                                                    |          |      |      |
| 11–14<br>14–15                   | 9<br>3                   | 4 - 6.7<br>6 5 6 9 7 7                                  | 5.4      |      |      |
| 15–17<br>17–18                   | 8<br>4                   | 5.3 - 7.1<br>5.4,5.7,5.8,6.1                            | 6.3      |      |      |
| Distal Brea                      | dth                      | Bd                                                      |          |      |      |
| 11–14<br>14–15                   | 7                        | 9.9 - 11.8                                              | 10.4     |      |      |
| 15–17<br>17–18                   | 8<br>3                   | 9.8 - 14.5<br>10.3,11.4,11.5                            | 11.8     |      |      |
| Distal Dept                      | h<br>-                   | Dđ                                                      |          |      |      |
| 11-14                            | - 8 - 3                  | 8 - 13.4                                                | 10.9     |      |      |
| 15–17<br>17–18                   | 5<br>2                   | 10 - 14.1<br>11.5,12.4                                  | 12.3     |      |      |
| CARPOMETACA                      | RPUS                     |                                                         |          |      |      |
| Greatest Le                      | ngth                     | GL                                                      |          |      |      |
| 11-14                            | 4                        | 34.5,39.5,39.6,40.4                                     |          |      |      |
| 15-17                            | 7                        | 40.3 - 45.7                                             | 42.3     |      |      |
| TARSOMETATA                      | RSUS (s                  | ex assessments on ba                                    | sis of s | pur) |      |
| Greatest Le                      | ngth                     | GL                                                      |          |      |      |
| 11-14<br>14-15                   | 2 hen<br>4 hen           | 66.2,69.6<br>62.62.1.66.8.75.4                          |          |      |      |
| 15-17                            | 2 hen                    | 69.4,79.9                                               |          |      |      |
| 15-17                            | 2 Cock                   | 82.8,94.9                                               |          |      |      |
| 15-17<br>17-18                   | 1 <b>c</b> apon<br>2 hen | 89.2                                                    |          |      |      |
| 17–18                            | 2 cock?                  | 88.5,88.7 (porous s                                     | pur)     |      |      |
| Proximal Br                      | eadth                    | Вр                                                      |          |      |      |
| 11-14                            | 2 hen                    | 10.9,12                                                 |          |      |      |
| 14-15                            | 4 hen                    | 11.2,11.6,12,13.1                                       |          |      |      |
| 15-17                            | 2 cock                   | 14.7,14.8                                               |          |      |      |
| 15-17                            | 1 capon                  | 15.1                                                    |          |      |      |
| 17-18                            | 2 hen                    | 11.9,12.9                                               |          |      |      |
| 17-18                            | 2 COCK?                  | 14./,15.9 (porous s                                     | pur)     |      |      |

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| Smallest Bre                                                         | eadth Corpus                                                               | s SC                                                                                        |              |
|----------------------------------------------------------------------|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|--------------|
| 11-14<br>11-14<br>14-15<br>15-17<br>15-17<br>15-17<br>17-18<br>17-18 | 2 hen<br>1 cock<br>5 hen<br>2 hen<br>2 cock<br>1 capon<br>3 hen<br>2 Cock? | 5.6,5.9<br>7.3<br>5.5 - 6.3<br>6,6.2<br>7.7,8.4<br>8.6<br>5.3,5.8,6<br>6.5,7.5 (porous spu: | 5.9<br>r)    |
| Spur Length                                                          | (cocks only                                                                | y) measured on poste                                                                        | rior surfaCe |
| 11–14<br>15–17<br>17–18                                              | 1<br>2<br>1                                                                | 19.6<br>14.7,17.6<br>16.5 (porous)                                                          |              |
| Distal Bread                                                         | lth                                                                        | Bd                                                                                          |              |
| 11-14<br>14-15<br>15-17<br>15-17<br>17-18<br>17-18                   | 1 hen<br>5 hen<br>2 hen<br>1 cock<br>2 hen<br>2 cock?                      | 11.5<br>11.4 - 13<br>12.6,12.8<br>15.9<br>11.6,13.2<br>14.5,15.3 (porous s)                 | 11.9<br>pur) |

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|            | Cat   | ttle   | Sheep |      |  |
|------------|-------|--------|-------|------|--|
| Phase      | n<br> | % meat | n 9   | meat |  |
| 1a         | 79    | 38     | 172   | 37   |  |
| 1b         | 75    | 44     | 131   | 37   |  |
| 1b?        | 43    | 49     | 31    | 52   |  |
| 1 <b>c</b> | 243   | 40     | 272   | 42   |  |
| 2s         | 80    | 54     | 37    | 57   |  |
| 2n         | 98    | 34     | 28    | 46   |  |
| 3s         | 184   | 67     | 133   | 56   |  |
| 3n         | 39    | 72     | 32    | 72   |  |
| 4s         | 221   | 74     | 168   | 63   |  |
| 4n         | 349   | 65     | 201   | 54   |  |

## TABLE A52SPECIES DIVERSITY BY PERIOD

| Phase |            | no.sp. | domestic |     | wi    | wild  |            | ?      |       |
|-------|------------|--------|----------|-----|-------|-------|------------|--------|-------|
|       |            |        | frage    | 5 8 | frags | <br>8 | _<br>frags | -<br>& | frags |
| Phase | 1a         | 16     | 387      | 54  | 18    | 3     | 310        | 43     | 715   |
| Phase | 1b         | 15     | 320      | 53  | 17    | 3     | 263        | 44     | 600   |
| Phase | 1b?        | 13     | 152      | 65  | 11    | 5     | 69         | 30     | 232   |
| Phase | 1 <b>c</b> | 16     | 741      | 58  | 39    | 3     | 506        | 39     | 1286  |
| Phase | 2S         | 12     | 171      | 60  | 5     | 1     | 111        | 39     | 287   |
| Phase | 2N         | 10     | 203      | 68  | 9     | 3     | 85         | 29     | 297   |
| Phase | 35         | 13     | 453      | 62  | 13    | 2     | 259        | 36     | 725   |
| Phase | 3 N        | 15     | 171      | 47  | 26    | 7     | 168        | 46     | 365   |
| Phase | 4s         | 19     | 520      | 53  | 29    | 3     | 436        | 44     | 985   |
| Phase | 4N         | 24     | 724      | 62  | 52    | 4     | 399        | 34     | 1175  |

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TABLE A53

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FRAGMENTATION AND PRESERVATION

| Phase | n    | %<br>gnawed | ş<br>ivoried | ş<br>eroded | %<br>0.5-1 | % small<br>splinters | %<br>unident* |
|-------|------|-------------|--------------|-------------|------------|----------------------|---------------|
|       | -    |             |              |             |            |                      |               |
| 1abC  | 2601 | 23          | 8            | 2           | 38         | 13                   | 27            |
| 1b?   | 232  | 23          | 9            | 2           | 21         | 22                   | 28            |
| 2     | 584  | 15          | 21           | 2           | 27         | 14                   | 19            |
| 3     | 1090 | 16          | 23           | 2           | 31         | 15                   | 22            |
| 4     | 2160 | 14          | 26           | 4           | 31         | 14                   | 22            |

\* the % of ungulate bones not identifiable to species or anatomy

TABLE A54

ARCHIVAL MATERIAL AND ITS LOCATION

Key to locations FRU Faunal Remains Unit, University of Southampton TWA Trust for Wessex Archaeology JPC Stored by the writer

Paper Archive Correspondence, notebooks, analysis notes, drafts FRU

PrintoutFull listing by species (primary records)FRU""" by context""FRUOverall CONMET, CONLIS (processed records)FRU/TWFCONMET, CONLIS by phaseFRUMET catalogue by phaseFRU

| Computer files               | Convention               | Location      |
|------------------------------|--------------------------|---------------|
| original data files          | 1W3.JPC,2W3.JPC etc      | FRU/JPC       |
| total data (context or sp or | der) W3ALL.CON,W3ALL.SPE | FRU/TWA/JPC   |
| phased data                  | e.g. W3PER1.CON etc      | FRU/JPC       |
| text/tables in 'Wordstar'    | W3TXT,W3TAB1 etc         | FRU/JPC       |
| tables in 'Supercalc'        | W3TABx.CAL               | FRU/JPC       |
| Garden Soil SCan             | W3SCAN.SPE , W3SCAN      | .CON etc only |