

ARCHAEOLOGICAL EXCAVATION REPORT

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R.A.F. Lakenheath

INDUSTRIAL MAINTENANCE WORKSHOP

LKH 146 (TL 732 809)

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93/40

1. INTRODUCTION

An excavation was carried out prior to the construction of an industrial maintenance workshop on the site of a Ministry of Defence building which had recently been demolished. This followed an evaluation carried out in December 1992 which confirmed the survival of archaeological levels on this important Roman site.

The excavation was funded by the Ministry of Defence and carried out by a small team from the Suffolk County Council archaeological section.

2. SUMMARY

The excavation revealed that archaeological features cutting into the natural sand and chalk survived in all areas and the Roman ground level was found undisturbed over about one third of the site.

The most common features on the site were ditches, probably boundary ditches, which criss-crossed the site and dated from the late Iron Age to early Saxon periods. Some of the ditches were quite deep and would have supported substantial fencing; there were also gaps, some with post holes between the ditches, indicating entranceways. The remains of two wall slots in the south west corner of the site were probably from an Iron Age type roundhouse and there was a well (which was augered to a depth of about 2.50m from the modern surface), with a step cut into the surrounding sand and chalk for access.

Three burials were excavated belonging to an adult man, a young boy and an infant. They seem to relate to a fenced enclosure dating from the late first century to mid second century. The adults were from the same family group.

Occupation rubbish deposits included slag and various pieces of quern and millstone from grinding corn, and animal bone and pottery. Preliminary analysis of the pottery suggests the density of occupation fluctuated in intensity from a high level of activity in the late first to mid second century, a low level in the late second and third century, before an increase again in the fourth century. There was also a scatter of pagan Saxon pottery and at least three features associated with it.

Ten bronze coins of fairly common types were found, of which nine were from the fourth, and one from the third century. Other metal objects included an iron knife and brooch, and a bronze brooch, a bracelet fragment and a cosmetic grinder. This last piece was exceptionally fine, it was 12cm long with a boat-shaped central section (providing the mortar) which was decorated with rings and dots, and had elaborate stag and bull head terminals.

3. LOCATION AND SOIL (Fig 1)

The site was located 200m north east of Caudle Head Mere (about 500m from the sewage works excavation, ERL 023, carried out in March 1992). The airbase lies on the edge of the Brecklands on the shoulder of a piece land which projects into the fens and on which Lakenheath village stands. The site is approximately 10m OD. The subsoil consisted of light sand over chalk (which was directly below the topsoil in places).

4. METHODOLOGY

The excavation was carried out over an area of about 300 square metres between 5 January and 12 February 1993 following trial trenching carried out on 5 December 1992. Only part of the site was sampled but the results suggested there was good preservation of the Roman layers just below the modern turf. This was confirmed over about one third of the site, when it was exposed by machining. In the remaining area survival varied, a lot of the Roman soil horizon remained but the surface was uneven and bits of brick and concrete were compressed into both the occupation soil and the natural sand beneath. Generally speaking the area beneath the previous building was the least well preserved with most of the features only showing well in the natural sand and chalk.

The site was metal detected and the surface cleaned, planned and photographed.

Most features were totally excavated (or as near as possible), the only exception being the well, 0060. Only about 1m of fill was excavated which divided into two layers, 0060 and 0064. 0064 appeared to continue down based on the augering which was later used to determine the depth of the feature. No features were sieved and finds were recovered by hand digging. This is thought to have been fairly successful as most of the features were shallow and the fills were very loose and easy to sort.

Plans and sections were drawn at a scale of 1:20. The eastern baulk to the excavation was drawn and the eastern half of the northern baulk, they were both fairly intact and a good soil profile could be observed. (It appeared as if the area to the north was heavily disturbed during the laying of a car park, as was the area to the south. Conditions looked slightly better to the west and very good towards the east.)

Photographs were taken on an ad hoc basis with a roll of film being finished at the end of the excavation on the completed site (see Appendix III).

The progress of the excavation was affected by local and media interest which effectively reduced the digging team by a half person a day, after the first week.

5. PHASING

The principal features have been grouped into chronological phases, most of the other features seen on the plan probably date from the Roman period.

Phase 1.1 (Fig 2)

Most of these features had a pale brown sand fill which was very distinctive and contrasted with the brown or blackish fills of the later features. This is fortunate as only shallow pit, 0081, contained finds; these were well burnt flints, probably pot boilers in charcoal. It was only 0.1m deep and about 0.5m at its maximum width. 0179 and 0084 were both ditches and about 0.75m wide; 0084 was an average 0.10m deep compared with 0.15m for 0179. Both features became shallower near the chalk, 0084 rising to the surface for about 3.5m before appearing again and 0179 disappears completely. 0167 was a curving 'V'-shaped slot, it was 0.12m deep and 0.2m wide although it petered out after running for about 5.5m. It was thought at first this may have been part of a roundhouse but this seems unlikely as the circumference of the building would have been too large. Other features in this phase are post holes 0199, and 0169 (this was based solely on their pale sand fill). Both of these features were about 0.1m deep. Finally, there is shallow pit, 0154, which includes a square profiled slot - heading north west out of the site. The feature was cut by ditch 0152, which is also included in this phase, but it is suggested that although 0154 was earlier, slot 0152 was close in date particularly as it was in turn cut by ditch 0093. Of the features without datable finds, 0154 and 0179 were cut by later features which also suggests an early date. These ditches are similar to those from the Roman period. The unstratified presence of Iron Age pottery on the site probably provides the best indicator of their date.

Phase 2.1 (Fig 3)

Phase 2 includes a tight sequence with finds dating from the late C1 to early C2. The principal features from Phase 2.1 were ditches 0088 and 0085 (0035). 0088 extended for 12m before exiting via the eastern excavation baulk. It varied between 1m and 0.3m in width and was up to 0.2m deep from the top of the natural. 0085 and 0033 were up to .25m deep and 0.4m wide, the two lengths each being 5m long.

0085 and 0033 are seen as one ditch, the slight variation in angle caused by the chalk rising to the surface. The finds from it could all come from the C1 although the date range goes into the C2. The ditch sequence was well stratified notably below ditches 0077 and 0041 and well 0060. Ditch 0093 is difficult to date, but the few finds suggest it was early Roman and it has been included in this phase. It was 7m long, exiting via the northern baulk and about 0.12m deep (although this varied depending on whether it cut through chalk or sand). Feature 0050 and 0165 and other features may form part of a roundhouse with a projected diameter of about 6m. This suggestion is tentative as the area was very disturbed and most of the feature lay beyond the edge of the excavation. 0165 was 0.12m deep curving slot about 0.3m wide. 0050 was part of a complicated series of features making up a trench. They were generally about 0.2m deep but did extend to a depth of 0.4m.

Phase 2.2 (Fig 4)

This phase is based around ditches 0019, 0067 and ditches 0044 and 0045, which appear to be part of an enclosure with a north west facing entrance. Secondary features clearly related were 0162 and 0065.

The fills of 0162, 0067, 0090 and 0065 were very similar as were the finds from 0162 and 0067. Working from west to east, ditch length 0019 was 0.25m deep by 0.55m wide. There followed a 3m gap between 0019 and 0067, which may have been an entrance although it coincides with the natural chalk rising to the surface. 0067 was 0.6m deep and varied between 1m and 0.53m in width (this is accounted for by a broad top quickly narrowing into a deep slot. Feature 0162 was up to 0.3m deep and 0.75m wide and may have extended between 2m and 4m, its relationship to 0067 was not completely clear.

0090 was about 0.2m deep and 0.3m wide in the small length exposed, 0065 had similar dimensions, it probably extended west of grave 0032. 0043 actually divides into two ditches, 0044 and 0045, they had a combined width of about 1.4m and were respectively 0.23m and 0.3m deep.

Ditches 0043 (0044 and 0045) terminate with 0067 at right angles and almost certainly form part of a rectangular enclosure. It was interesting to note the exceptional depth of 0067 when compared with both 0044/45 and 0019. This ditch length may have supported a solid timber stockade.

The three burials also belong with this phase as they were directly related to the enclosure because:

- a) Their proximity to the boundary and the grave alignments. 0189 aligns with 0019 just as 0032 aligns with 0043.
- b) The datable finds which came from 0189 and 0032.

Genetic traits recognised during the bone analysis suggests 0189 and 0037 were from the same family. A complete skeleton of a small dog (0082) was also buried within 0067.

Slot 0069 is included in this phase plan but the only dating evidence was a single undiagnostic Roman pottery sherd. It was clearly two slots (although most of one was missing); the main slot was 0.2m wide by 0.25m deep with a 'V'-shaped profile. The remains are probably too short to be certain of the line but they probably represent hut circles with diameters of about 5m. Spatially 0069 sits more comfortably with phases 2.2 and 2.3.

Phase 2.3 (Fig 5)

This phase is based around well This phase is based around well 0060 and ditches 0013 and 0089 which terminated in it. In plan the position of the well clearly influenced the course of the ditches which suggests they were contemporary or later. 0089 and 0013 may have been part of a single boundary ditch which ran alongside the well. Ditch 0013 was 0.3m deep and 0.5m wide, it rose to the surface in an area of chalk before dropping again to a maximum depth of 0.4m close to the well. Ditch 0013 cut 0085, was itself cut by 0007, it contained C2 pottery.

Well

The well was between 2.5m and 3.5m in diameter splaying slightly towards the surface. The dating of the well is difficult as it was not bottomed. Two layers were excavated 0064 and 0060. 0060 is included in Phase 3 because it was clearly a large rubbish deposit infilling the hole left after the backfill from the well (0064) had subsided. The second distinguishable layer in the well (0064) was only partially excavated (about 0.3m in depth) but an augered sample to the base of the well suggested this was a continuous layer which came down onto peat, which was directly over solid chalk (which was 2.35m below the modern ground surface). This could represent a single backfilling. Most of the pottery was C2 or earlier with five C3 sherds, one C4 coin was recovered but this was close to the top.

Phase 3.1 (Fig 6)

This phase includes ditch 0017 which terminated in a post hole 0202 and ditches 0036 and 0037, the former of which also ends in a post hole 0205. 0036 and 0037 were 0.38m and 0.3m deep respectively. 0017 was generally about 0.2m deep dropping to 0.6m where it coincides with 0016. Post hole 0202 was 0.5m deep. 0017 and the two phases of ditch 0036/0037 were clearly associated forming a right angle with a 1.5m gap between the end posts which probably formed an entrance. The double ditches were cut by a shallow rectangular feature 0049 on the north east side which was up to 0.2m deep and 0.75m wide. Ditch 0073 is shown in this phase although it contained a couple of sherds of Anglo Saxon pottery. It is suggested the origins of the feature pre-date the final fill. It was 0.4m deep and 0.65m wide with a 'V' shaped profile. Midden layer, 0060, which infilled the top of the well, is also included in this phase. It was up to 4m wide and 0.6m deep. The distinct charcoally upper fill produced over 150 sherds of C3 and C4 pottery, a single sherd of Anglo-Saxon pottery and a C4 coin. Amid the general rubbish were several fragments of quern stone and bronze slag. The 'cosmetic grinder' was also provenanced to this layer although it was found near the base and may have been from the earlier fill (the top layer was overcut in order to avoid contamination of the finds from the lower layer). Ditches 0036 and 0037 contained a small amount of C3 and C4 pottery and 0049 contained a single sherd. Ditch 0007 cut 0049 which in turn cut 0036/37. It, therefore, seems likely that a surface plan which showed 0007 exiting the site via the south baulk was correct (shown as dashed lines on the phase plan).

The finds from 0017 were less clear; the fill of the top of the feature was indistinguishable from that of hollow, 0016. The top fill of 0017 produced two Saxon pottery sherds and five C3-C4 sherds. 0016 produced six Saxon sherds with six C3 and C4 sherds but was cut by a Saxon feature, 0011. It is suggested from this that the original features had their origins in the late C4 but drawing a line between this phase and the later phase is difficult.

Phase 4.1 (Fig 7)

This phase includes features 0080, 0074, 0070, 0011, 0016 and 0007. 0080 and 0074 both cut 0073 which contained two Anglo Saxon potsherds. It follows from this that they were both late. Post hole 0080 was 0.5m deep, slot 0081 was 0.08m deep and 0.4m wide, these may have been part of a fence running out of the site. Features 0070 and 0011 were shallow scoops. 0070 was 0.1m deep and up to 0.75m wide. 0011 was up to 1m wide and 0.25m deep.

0070 contained three Anglo-Saxon sherds. 0011 produced five Anglo-Saxon sherds but there were four more from the surrounding layer which was poorly differentiated from 0016, which also produced Saxon pottery. 0016 was a rather formless dark brown spread containing late Roman and a small amount of Saxon pottery. The most prominent feature was ditch 0007, which extended for about 25m across the site. It only produced a small amount of pottery in a very dark loamy fill but approximately half of this (seven sherds were Anglo-Saxon). It varied in depth from up to 0.4m to almost nothing where it exited the site towards the south east corner.

The Burials

A report has been produced on the skeletons recovered from this site and those from the sewage works (ERL 023) and the hobby centre site (LKH 114) excavated in 1987 (see Appendix IV).

6. GENERAL DISCUSSION AND CONCLUSIONS

Archaeological survey work and excavation has shown that the Brecklands and particularly the wetlands of the Fens were important areas for settlement and were extensively exploited during prehistory. The distribution of these sites on marginal land was clearly affected by the fluctuating climatic conditions and a shift has been recognised in habitation sites towards the edge of the Fens during the Iron Age, probably as a result of the rising water table. Archaeological work carried out across the Fens suggest many sites became quite wealthy during the Roman occupation, probably using the marginal land for rearing sheep, and it is argued they may have been organised into an Imperial estate by the Emperor Hadrian during his visit to Britain in 122 AD. A recently excavated site at Stonea in Cambridgeshire has been suggested as an administrative centre for such an estate ('The Roman Fenland', Tim Potter in 'Research in Roman Britain', 1980, edited by Malcolm Todd). There would appear to have been a general decline along the fen edge at about the end of the C2, which may have been due to climatic changes, with conditions improving again during the C4. A clear picture of a common character to the fen edge sites has not yet emerged, there is evidence of both individual villas and small farms along with more continuous belts of occupation.

Very little excavation work has been carried out in Suffolk to date, but it seems an area to the west of Lakenheath village was a focus for settlement with evidence of pottery manufacturing and concentrated areas of occupation debris. The airbase site may be closely related to this with Caudle Head Mere providing a second focus for habitation. It is probably significant that very few Roman finds have been made to the south east of the mere, which faces away from the village.

Only a small area of the settlement has been excavated but the evidence for roundhouses suggests it was primarily native in origin (although thriving under Roman rule) and compared with other fen edge sites, such as Maxey and Fengate in Cambridgeshire. Certainly the later period of occupation with evidence of smithing and manufacturing in bronze (from the sewage works area), along with a prodigious quantity and colourful range of pottery types, indicates wide trading connections.

The chronology of the site also seems to parallel those found elsewhere with a very active phase of occupation in the C1 and C2 followed by a long period of inactivity before a resurgence in the later C3, or more probably the C4 (this period showed up very clearly in the evidence from the sewage works site).

There is little evidence from the site to explain the abrupt decline of cultural material. There is an early Saxon cemetery situated beyond the areas of Roman occupation just 400m from Caudle Head and Saxon pottery has been found on both the recent excavations. There is a problem in measuring the significance of these deposits; the rich material culture of the Romans leaves a stronger archaeological record than the far less material culture of the Pagan Saxons. The discovery, however, of Saxon pottery within late Roman rubbish deposits could imply an overlap in occupation before Roman cultural material disappears in the 5th century.

The fluctuations in the fortunes of the settlement could mirror climatic, economic and political changes affecting the wider Fens which may ultimately have decided the fate of the settlement.

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1993

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Appendix I

KEY TO FIG 1

	<u>County Sites & Monuments Code</u>	<u>Date of Discovery</u>	<u>Summary of Finds</u>
1.	ERL 009	1933	Finds of Roman pottery and coins C2-C4 and a 'Trumpet' brooch.
2.	ERL 023	1948	Skeletons in wooden coffins. C4 Roman pottery and coins. 1991 excavation produced single burial, Roman occupation debris with bronze manufacturing waste, ditches and fence lines.
3.	ERL 024	1953	Roman pottery associated with male burial.
4.	ERL 006	1932	'Much Roman Pottery' finds spot approximate.
5.	LKH 114	1987	Roman pottery, ditches, probably boundary ditches with two burials possible C1 or C2. Also Iron Age storage pit C4 BC.
6.	LKH 146	1993	Excavation produced Roman pottery, ditches, fence lines and a well and two burials. Also some undated earlier ditches, including a possible round house and several sherds of early Saxon pottery.
7.	LKH 030	1924	Roman pottery, palisade ditches and cemetery (sic) inhumation.
		1943	Roman coins, pottery and burials.
		1951	Further finds by workman.
8.	LKH 031	1950	Roman pottery
9.	LKH 033	1955	Republican coin C1 BC.

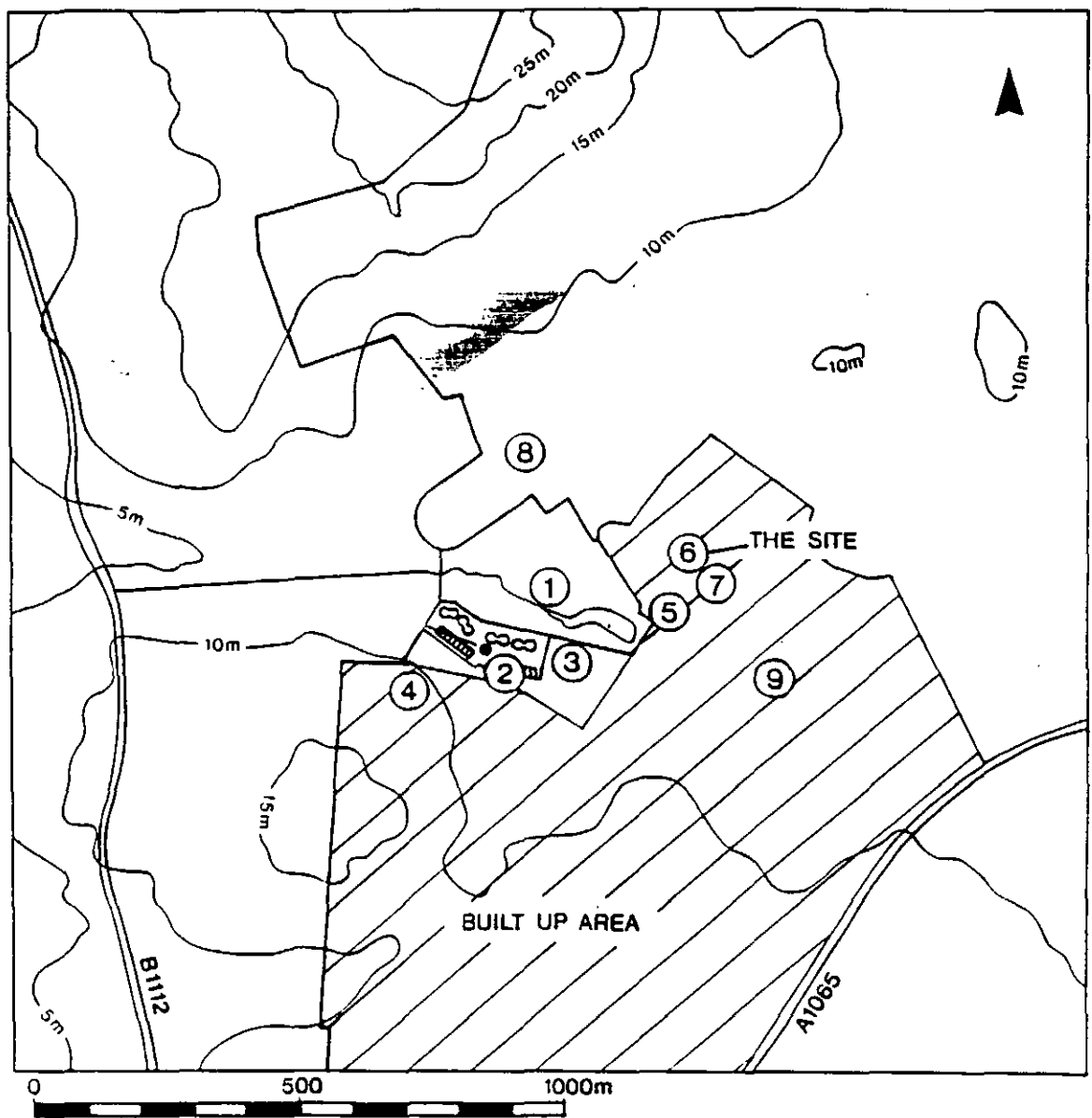


Fig 1 Site location plans showing Romano British findspots recorded in the county Sites and Monuments Record within 300m of Caudle Head Here. For key see Appendix I.

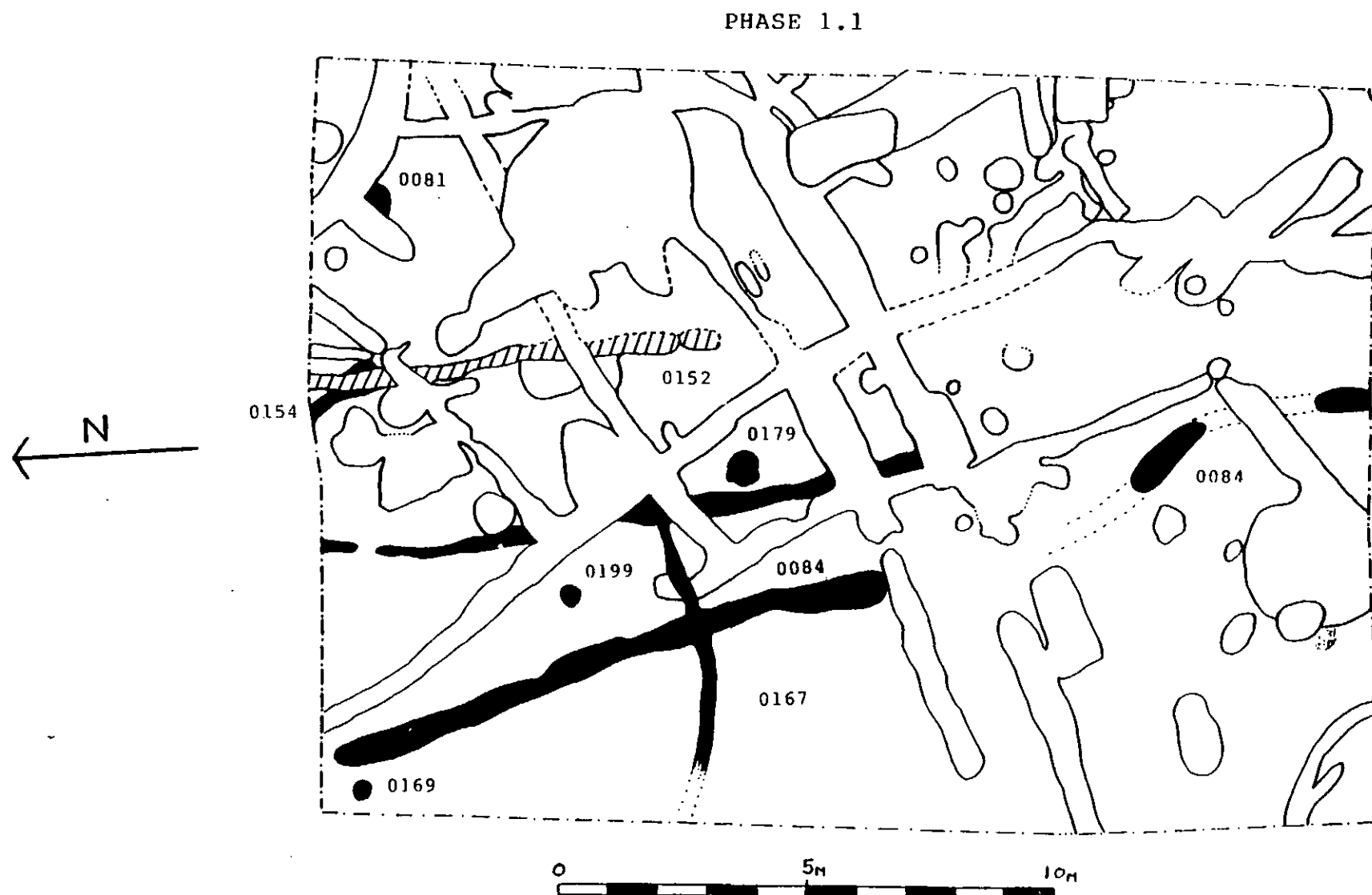


Fig 2 Prehistoric and early Roman features.

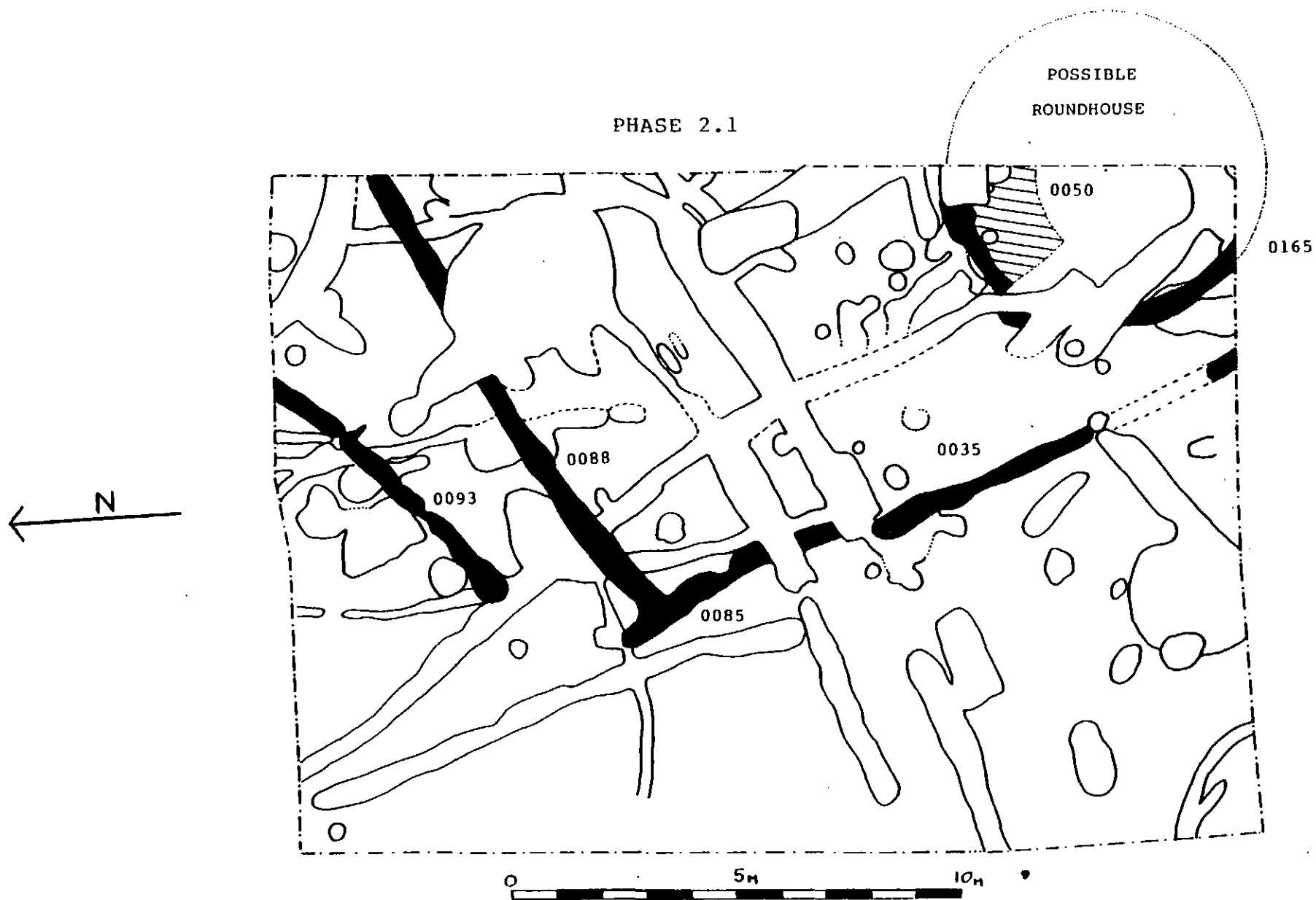


Fig 3 Early Roman 1st to 2nd Century with possible roundhouse.

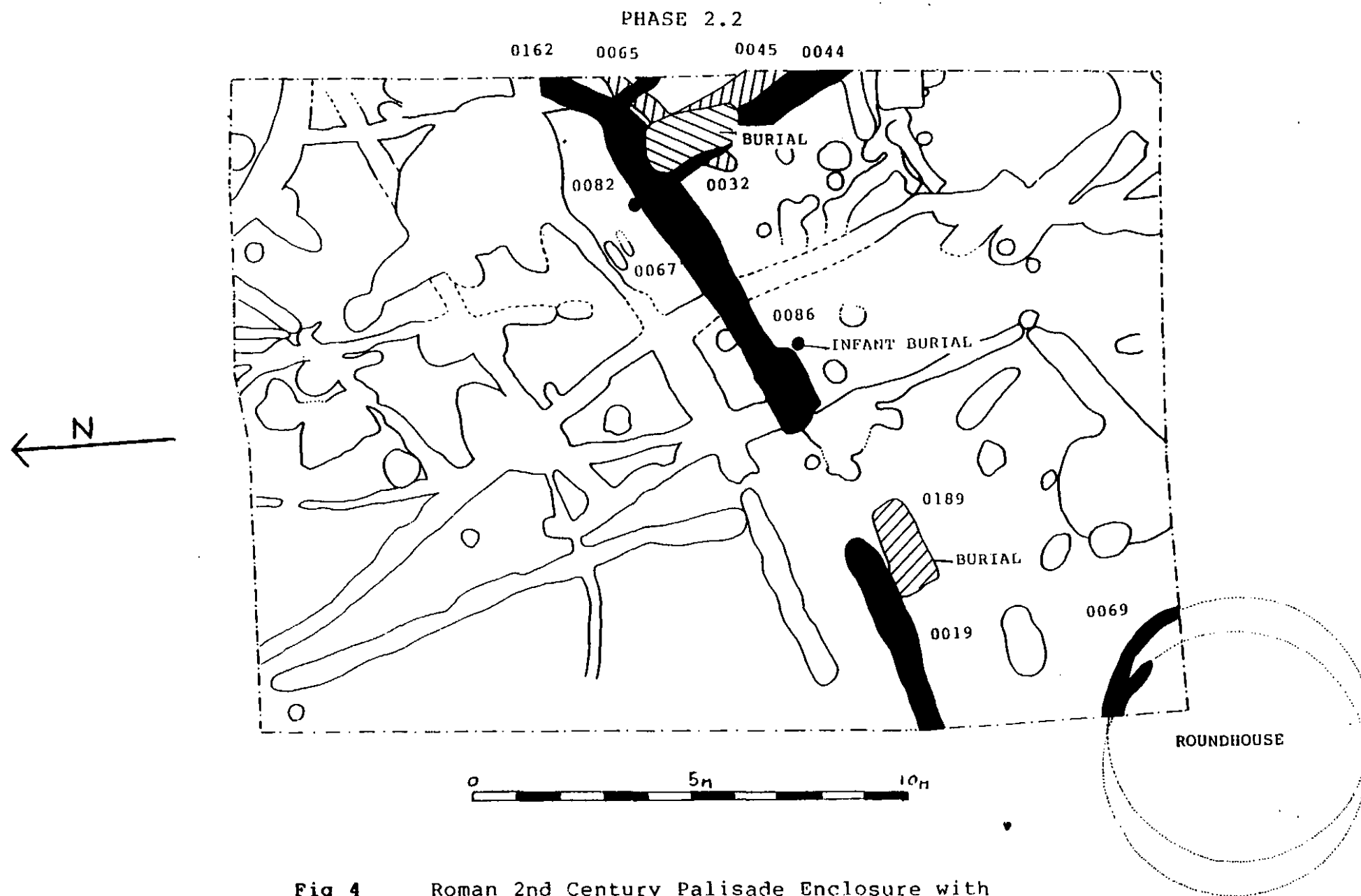


Fig 4 Roman 2nd Century Palisade Enclosure with burials and roundhouse.

PHASE 2.3

0089

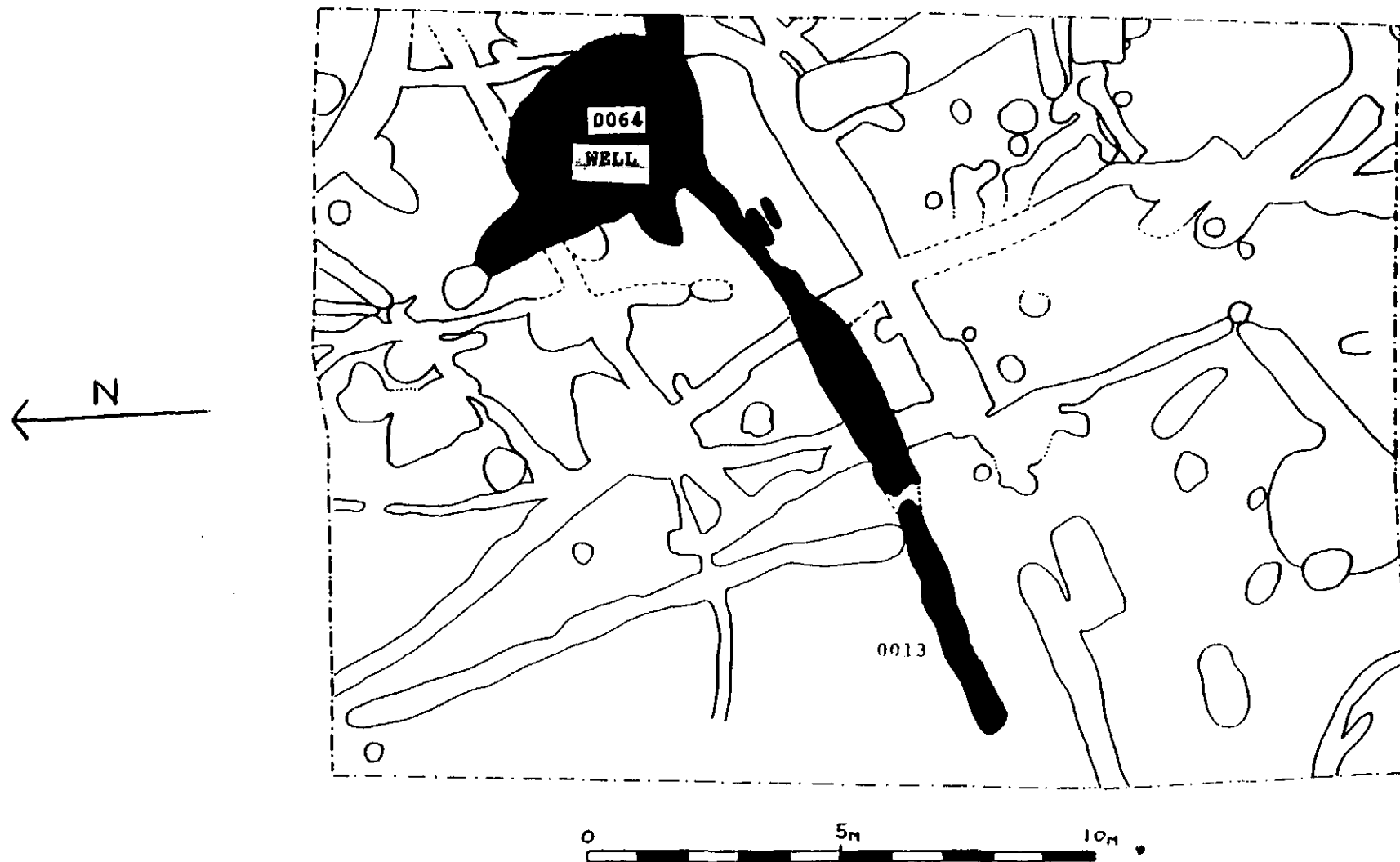


Fig 5 Roman 2nd Century Ditch with Well.

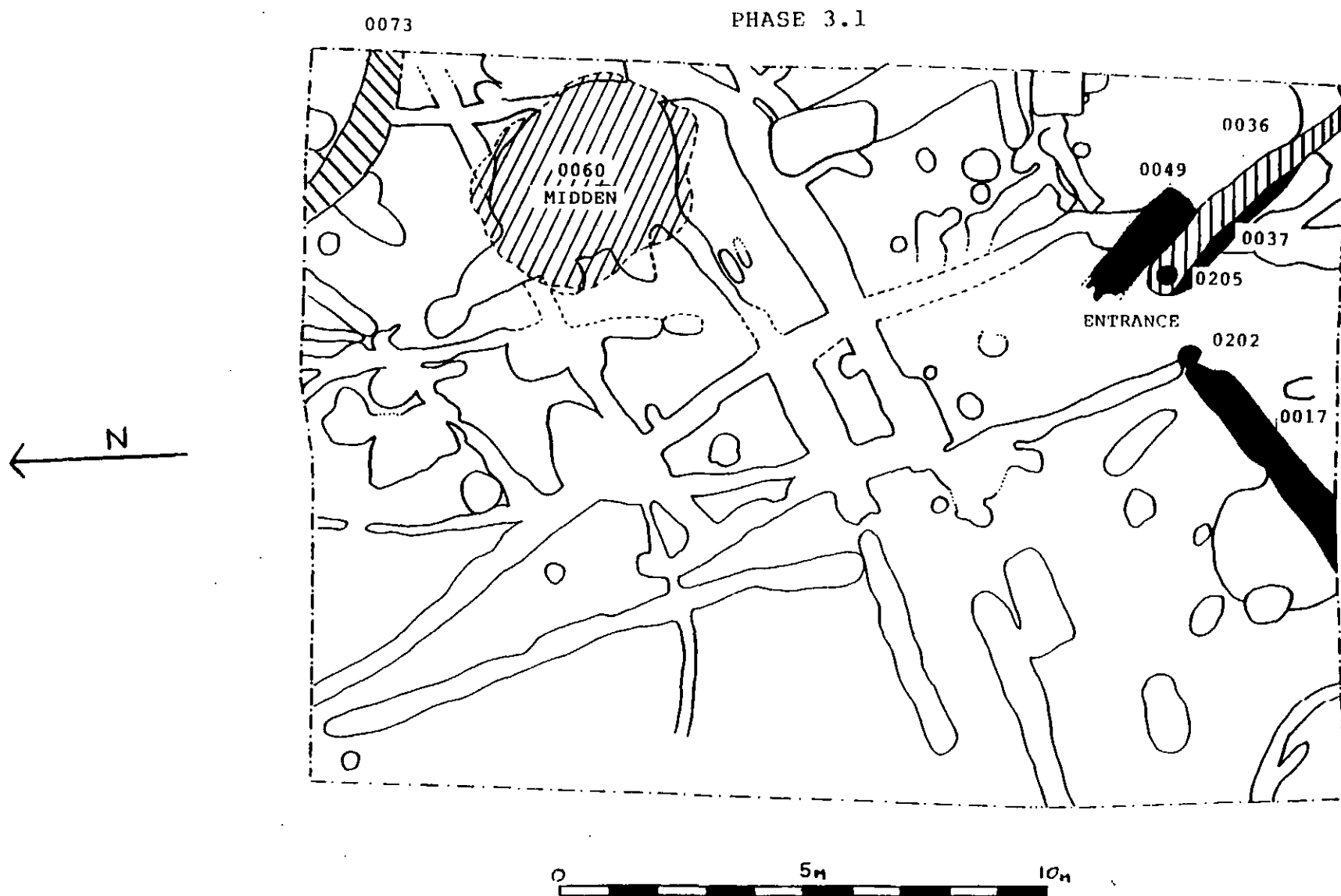


Fig 6 Roman 3rd to 4th Century Enclosure with gated (?) entrance.

PHASE 4.1

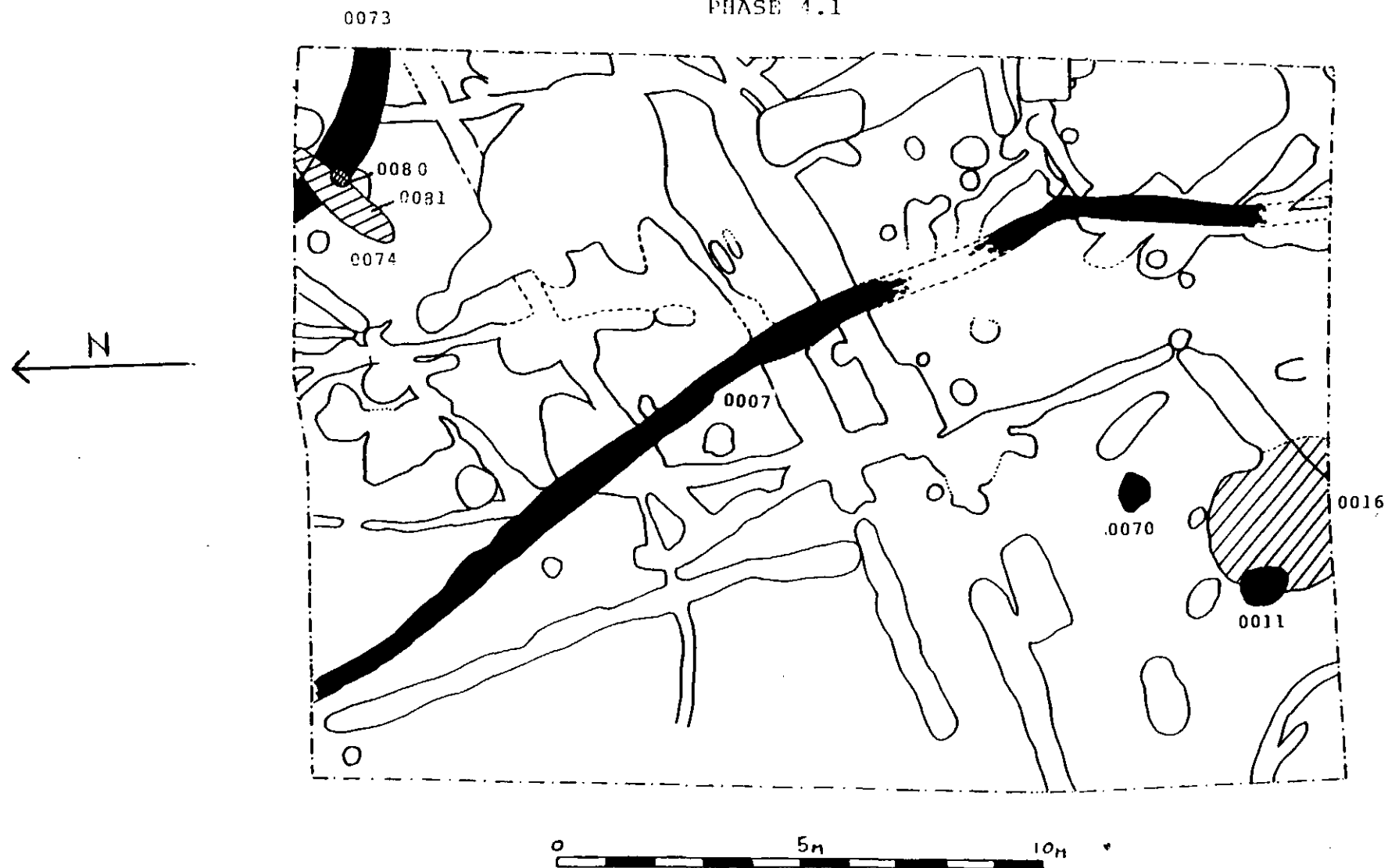


Fig 7 Late Roman/Early Saxon features.

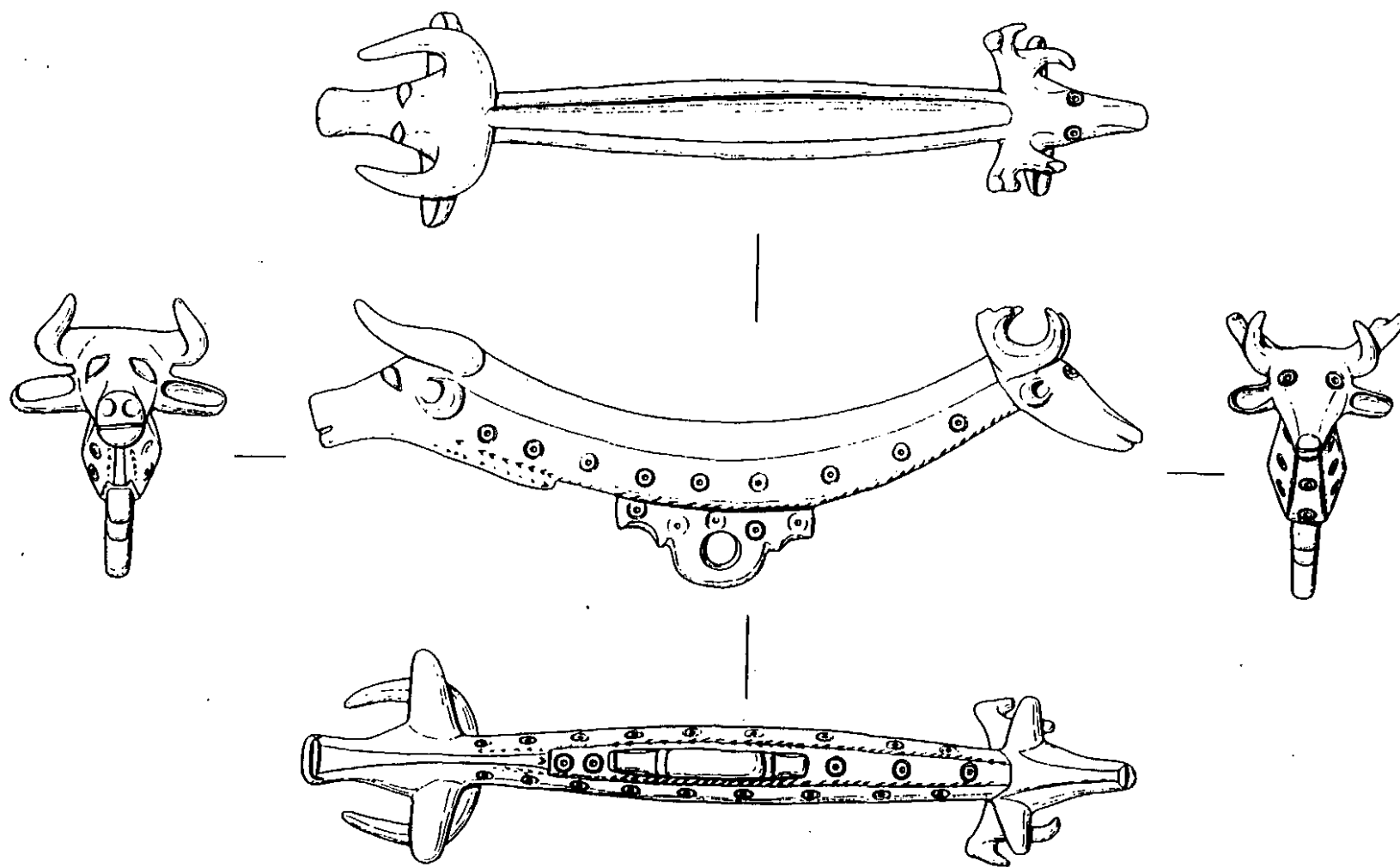


Fig 8 Roman 1st Century Bronze Cosmetic Grinder
Scale 1/1.

Appendix II

Page No. 1

05/11/93

Lakenheath LKH 146 General finds quantities

OPNO	POTKGS	POTNo	ABONEkg	TILEkg	TILE no.	FLINT no.	CLAYkg	CLAY no.	SLAGkg	LAVAKg	SHELLkg	FeNo	MISC
0001	0.290	31	0.120	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	
0002	0.230	10	0.240	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	
0003	0.000	19	0.030	0.000	0	0	0.030	1	0.000	0.000	0.00	0.00	
0005	0.050	7	0.030	0.000	0	1	0.000	0	0.000	0.000	0.00	0.00	
0006	0.090	17	0.010	0.000	0	1	0.000	0	0.000	0.000	0.00	0.00	
0007	0.190	25	0.460	0.000	0	3	0.000	0	0.130	1.200	0.00	0.00	
0008	0.830	68	0.140	0.000	0	1	0.000	0	0.000	0.000	0.00	0.00	
0009	0.030	3	0.000	0.020	1	1	0.000	0	0.000	0.000	0.00	0.00	
0010	0.000	0	0.010	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	
0011	0.040	9	0.090	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	
0012	0.020	9	0.070	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	
0013	0.050	12	0.000	0.000	0	1	0.000	0	0.000	0.000	0.00	0.00	
0014	0.320	24	0.010	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	
0015	0.580	36	0.080	0.000	0	2	0.010	1	0.000	0.000	0.00	0.00	
0016	0.250	18	0.230	0.110	2	0	0.000	0	0.000	0.000	0.00	0.00	
0017	0.120	14	0.160	0.000	0	1	0.000	0	0.000	0.000	0.00	0.00	
0019	0.340	37	0.140	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	
0020	0.260	33	0.010	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	
0021	0.160	17	0.260	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	
0022	0.050	9	0.010	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	
0023	0.000	0	0.340	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	
0024	0.010	1	0.140	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	
0025	0.830	86	0.920	0.000	0	2	0.010	1	0.000	0.000	0.00	0.00	
0026	0.190	28	0.060	0.000	0	1	0.080	4	0.090	1.200	0.00	0.00	
0027	0.110	14	0.060	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	
0028	0.190	21	0.200	0.000	0	0	0.010	1	0.000	0.000	0.00	0.00	
0029	0.050	8	0.120	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	
0030	0.020	4	0.100	0.000	0	0	0.020	1	0.000	0.000	0.00	0.00	
0031	0.070	18	0.000	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	
0032	0.300	46	0.060	0.000	0	1	0.000	0	0.000	0.000	0.00	0.00	
0033	0.240	21	0.200	0.000	0	0	0.020	1	0.070	0.000	0.00	0.00	
0034	0.020	4	0.050	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	
0035	0.030	4	0.000	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	
0036	0.020	5	0.380	0.000	0	0	0.000	0	0.000	0.000	0.02	0.00	
0037	0.040	3	0.050	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	
0038	0.040	5	0.120	0.000	0	0	0.020	1	0.000	0.000	0.00	0.00	
0039	0.220	30	0.100	0.000	0	0	0.010	1	0.000	0.000	0.00	0.00	
0040	0.030	2	0.580	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	
0041	0.260	24	0.700	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	
0042	0.600	25	0.200	0.000	0	0	0.000	0	0.080	0.000	0.02	0.00	
0043	0.061	2	0.130	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	
0044	0.080	14	0.260	0.000	0	0	0.010	2	0.000	0.000	0.00	0.00	
0045	0.050	12	0.010	0.000	0	0	0.000	0	0.000	0.000	0.01	0.00	
0046	0.020	5	0.010	0.000	0	1	0.000	0	0.060	0.000	0.00	0.00	
0047	0.010	3	0.010	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	
0048	0.050	5	0.160	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	
0049	0.060	3	0.040	0.000	0	0	0.070	2	0.000	0.000	0.00	0.00	
0050	0.060	10	0.010	0.000	0	0	0.020	3	0.000	0.000	0.00	0.00	
0051	0.030	2	0.010	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	
0052	0.060	5	0.000	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	
0053	0.230	5	0.000	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	
0056	0.110	5	0.080	0.000	0	0	0.120	4	0.000	0.000	0.00	0.00	

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Lakenheath LXH 146 General finds quantities

OPHO	POTKGS	POTNo	ABONEkg	TILEkg	TILE No.	FLINT No.	CLAYkg	CLAY No.	SLAGkg	LAUAKg	SHELLkg	FeNo	MISC
0059	0.100	17	0.060	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	0.00
0060	4.050	309	5.790	0.390	5	2	0.010	1	0.410	0.000	0.00	0.00	0.00
0064	1.410	104	9.580	0.220	1	0	0.000	0	0.050	0.000	0.04	0.00	0.00
0065	0.010	2	0.010	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	0.00
0067	1.250	91	0.200	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	0.00
0068	0.020	8	0.000	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	0.00
0069	0.010	1	0.000	0.000	0	1	0.000	0	0.000	0.000	0.00	0.00	0.00
0070	0.020	7	0.010	0.010	1	0	0.000	0	0.000	0.000	0.00	0.00	0.00
0073	0.140	24	0.050	0.000	0	3	0.000	0	0.000	0.000	0.00	0.00	0.00
0074	0.140	10	0.000	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	0.00
0075	0.030	5	0.010	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	0.00
0076	0.020	4	0.000	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	0.00
0077	0.030	7	0.000	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	0.00
0078	0.160	18	0.090	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	0.00
0080	0.030	3	0.020	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	0.00
0081	0.010	2	0.020	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	0.00
0082	0.020	1	0.320	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	0.00
0083	0.050	5	0.060	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	0.00
0084	0.000	0	0.040	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	0.00
0084	0.000	0	0.040	0.000	0	1	0.000	0	0.000	0.000	0.00	0.00	0.00
0085	0.100	15	0.110	0.000	0	1	0.000	0	0.000	0.000	0.00	0.00	0.00
0087	0.030	3	0.040	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	0.00
0088	0.090	10	0.110	0.000	0	0	0.010	1	0.000	0.000	0.00	0.00	0.00
0089	0.090	10	0.000	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	0.00
0090	0.010	1	0.000	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	0.00
0093	0.020	3	0.010	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	0.00
0094	0.200	12	0.020	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	0.00
0095	0.010	1	0.020	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	0.00
0096	0.120	4	0.170	0.000	0	1	0.000	0	0.000	0.000	0.00	0.00	0.00
0098	0.050	2	0.000	0.000	0	1	0.000	0	0.000	0.000	0.00	0.00	0.00
0099	0.010	1	0.080	0.000	0	2	0.000	0	0.000	0.000	0.00	0.00	0.00
0150	0.010	2	0.030	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	0.00
0151	0.080	5	0.030	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	0.00
0152	0.030	3	0.080	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	0.00
0156	0.070	13	0.010	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	0.00
0157	0.020	3	0.010	0.000	0	0	0.010	1	0.000	0.000	0.00	0.00	0.00
0158	0.000	0	0.120	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	0.00
0162	0.350	38	0.250	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	0.00
0163	0.070	1	0.000	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	0.00
0165	0.100	9	0.060	0.000	0	1	0.000	0	0.000	0.000	0.00	0.00	0.00
0166	0.180	14	0.010	0.000	0	1	0.060	3	0.000	0.000	0.00	0.00	0.00
0168	0.200	32	0.030	0.000	0	0	0.000	0	0.040	0.000	0.00	0.00	0.00
0172	0.200	26	1.810	0.000	0	1	0.000	0	0.000	0.000	0.00	0.00	0.00
0173	0.020	2	0.290	0.000	0	1	0.000	0	0.000	0.000	0.00	0.00	0.00
0174	0.030	2	0.010	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	0.00
0175	0.010	1	0.020	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	0.00
0176	0.020	1	0.480	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	0.00
0177	0.030	3	0.050	0.020	1	0	0.000	0	0.000	0.000	0.00	0.00	0.00
0178	0.110	6	0.000	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	0.00
0182	0.020	4	0.000	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	0.00
0186	0.000	0	0.030	0.000	0	1	0.000	0	0.000	0.000	0.00	0.00	0.00
0189	0.130	14	0.050	0.000	0	1	0.000	0	0.000	0.000	0.00	0.00	0.00

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Lakenheath LKH 146 General finds quantities

OPND	POTXGMS	POTno	ABONEkg	TILEkg	TILE no.	FLINT no.	CLAYkg	CLAY no.	SLAGkg	LAVAKg	SHELLkg	FeNo	MISC
0190	0.030	2	0.000	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	
0193	0.000	0	0.040	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	
0195	0.030	3	0.000	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	
0197	0.000	0	0.000	0.000	0	0	0.000	0	0.020	0.000	0.00	0.00	
0198	0.030	3	0.000	0.000	0	0	0.000	0	0.000	0.000	0.00	0.00	
	17.991	1750	27.47	0.770	11	34	0.530	29	0.95				

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Lakenheath LKH 146 Photograph index

PARISH & SITECODE	CATEGORY		DESCRIPTION	PERIOD	DATE	FILMTYPE	FILMNO
Lakenheath	146	Ex	0168, skeleton.	Ro	01.93	=	CRK 22
Lakenheath	146	Ex	0166.	Ro	01.93	=	CRK 23
Lakenheath	146	Ex	General view of north end of site.	Ro	01.93	=	CRK 24
Lakenheath	146	Ex	General view of north end of site.	Ro	01.93	=	CRK 25
Lakenheath	146	Ex	General view of north end of site.	Ro	01.93	=	CRK 26
Lakenheath	146	Ex	General view of north end of site.	Ro	01.93	=	CRK 27
Lakenheath	146	Ex	General view of north end of site.	Ro	01.93	=	CRK 28
Lakenheath	146	Ex	General view of north end of site.	Ro	01.93	=	CRK 29
Lakenheath	146	Ex	General view of north end of site.	Ro	01.93	=	CRK 30
Lakenheath	146	Ex	General view of north end of site.	Ro	01.93	=	CRK 31
Lakenheath	146	Ex	General view of north end of site.	Ro	01.93	=	CRK 32
Lakenheath	146	Ex	General view of north end of site.	Ro	01.93	=	CRK 33
Lakenheath	146	Ex	0168-skeleton.	Ro	01.93	=	CRK 34
Lakenheath	146	Ex	0168-skeleton.	Ro	01.93	=	CRK 35
Lakenheath	146	Ex	0168-skeleton.	Ro	01.93	=	CRK 36
Lakenheath	146	Ex	0167 ring ditch.	Ro	01.93	=	CRK 1
Lakenheath	146	Ex	0167.	Ro	01.93	=	CRK 2
Lakenheath	146	Ex	0170 section.	Ro	01.93	=	CRK 3
Lakenheath	146	Ex	0191 section.	Ro	01.93	=	CRK 4
Lakenheath	146	Ex	0172 section.	Ro	01.93	=	CRK 5
Lakenheath	146	Ex	0172 and 0065 section.	Ro	01.93	=	CRK 6
Lakenheath	146	Ex	North bank section.	Ro	01.93	=	CRK 7
Lakenheath	146	Ex	North bank surface.	Ro	01.93	=	CRK 8
Lakenheath	146	Ex	0189, skeleton.	Ro	01.93	=	CRK 9
Lakenheath	146	Ex	0189, skeleton.	Ro	01.93	=	CRK 10
Lakenheath	146	Ex	0190, north-south bank.	Ro	01.93	=	CRK 11
Lakenheath	146	Ex	0190.	Ro	01.93	=	CRK 12
Lakenheath	146	Ex	0190.	Ro	01.93	=	CRK 13
Lakenheath	146	Ex	General view of site excavated.	Ro	01.93	=	CRK 14
Lakenheath	146	Ex	General view of site excavated.	Ro	01.93	=	CRK 15
Lakenheath	146	Ex	General view of site excavated.	Ro	01.93	=	CRK 16
Lakenheath	146	Ex	General view of site excavated.	Ro	01.93	=	CRK 17
Lakenheath	146	Ex	General view of site excavated.	Ro	01.93	=	CRK 18
Lakenheath	146	Ex	0196, north-south bank.	Ro	01.93	=	CRK 19
Lakenheath	146	Ex	0196, north-south bank.	Ro	01.93	=	CRK 20
Lakenheath	146	Ex	0196, north-south bank.	Ro	01.93	=	CRK 21
Lakenheath	146	Ex	0196, north-south bank.	Ro	01.93	=	CRK 22
Lakenheath	146	Ex	0196, north-south bank.	Ro	01.93	=	CRK 23
Lakenheath	146	Ex	0196, north-south bank.	Ro	01.93	=	CRK 24
Lakenheath	146	Ex	0067.	Ro	01.93	=	CRK 25
Lakenheath	146	Ex	Area around 0203.	Ro	01.93	=	CRK 26
Lakenheath	146	Ex	0060, general view of well.	Ro	01.93	=	CRK 27
Lakenheath	146	Ex	0060, general view.	Ro	01.93	=	CRK 28
Lakenheath	146	Ex	Entrance post holes.	Ro	01.93	=	CRK 29
Lakenheath	146	Ex	West bank.	Ro	01.93	=	CRK 30
Lakenheath	146	Ex	0139-emptied grave.	Ro	01.93	=	CRK 31
Lakenheath	146	Ex	0069.	Ro	01.93	=	CRK 32
Lakenheath	146	Ex	0013-junction with other features.	Ro	01.93	=	CRK 33
Lakenheath	146	Ex	0067, section.	Ro	01.93	=	CRK 34
Lakenheath	146	Ex	South bank.	Ro	01.93	=	CRK 35

TOTAL : 109

Lakenheath LKH 146 Small finds catalogue

OP	MATERIAL	CATEGORY	DESCRIPT	DESCRIPT2	PERIOD
0100	Ae	bracelet?	Strip, rounded terminal, broken at the other end, folded round to form a loop 6.5mm in diameter. Width 4.5mm, thickness 2mm. ?decoration on inside face.		Rom
0101	Ae	coin	Ae3, obv: ?laureate, rev: illeg. ? deliberate smoothing. VM corr. C4?		Rom
0102	Ae	coin	Ae4, irr. obv: laureate, blundered legend rev: FH ?clipped MW 348-60		Rom
0103	Ae	pin fragment	1.5mm diameter shaft, tapered to a point? (obscured by corrosion), right angle bend at 31mm length, broken end. Probable brooch pin.		Rom
0104	Ae	pin fragment	Straight shaft, 1.8mm in diameter, tapering to a point. Surviving length 40mm.		Rom
0105	antler	worked point	Worked antler fragment, split.		
0106	Ae	coin	? obv: ?radiate?, rev: ?blundered legend. Cut fragment, pentagonal shape c.7mm across. W C3/C4		Rom
0107	Ae	fragment	Cut or broken from a disc 3.5mm thick. ?offcut.		Un
0108	Fe	stud hobnail	Diameter 9mm, domed head, shaft length 5mm.		Rom?
0109	Ae	cosmetic grinder	Central loop type mortar. Well modelled bull and stag terminals, some damage to antlers. Lower part of body has row of punched dot and ring. Elaborate loop outline, also has dot and ring. Length 123mm, depth (palette+loop) at centre 24.6mm. The recess in Ae3, illeg, vcorr C3/C4 (prob C4?)	the mortar is normal depth (2.7mm), whole object is solid cast and so quite heavy. Comparable in size to Hockwold (Jackson 1985no59) but stylistically more like smaller eggs (as Stonea, Jackson no.60) although more elaborate than these.	Rom
0110	Ae	coin			Rom
0111	Ae	brooch	Nauheim derivative type. Pin detached. Flat tapered bow, ? with marginal grooves. Solid catchplate. Length 8.4mm. Heavily corroded.		Rom
0112	antler	worked point	Worked antler point.		
0113	Fe	brooch	Complete(?) bow type. Narrow circular section bow, tapered. Solid catchplate. Tall head, pin attachment unclear (?hinged?), right angle junction with bow. Length 48mm.		Rom?
0114	Fe	fragment	Flat piece, irregular outline, max. length 41mm, c. 1.5mm thick		Un
0115	Ae	coin	Ant, irr. obv: Tetricus (?) rev: PAX AVG W 270-3+		Rom
0116	Fe	knife?	fragment, broken both ends,		Rom?

Lakenheath LKH 146 Small finds catalogue

OP	MATERIAL	CATEGORY	DESCRIPT	DESCRIPT2	PERIOD
0117	Ae	coin	blade width 20mm. Ae3/4 obv: HoC rev: 2V (?) W.corr. ?clipped 7343-348		Rom
0118	Ae	coin	Ae3, obv: Valens rev:SR Mint Siscia. W 367-75		Rom
0119	Ae	coin	Ae3 obv:Cs rev:2V W, corr 343-348		Rom
0120	Ae	coin	Ae3 obv: Valens rev: SR mint SCON Arles MW 364-378		Rom
0121	Ae	coin	Ae2 Tinn obv Valentinian II ?blundered. rev: REPARITIO (sic) REIPVB mint LVGP Lyons LRBC II, 373 MW 378-383		Rom
0122	lava stone	quern	Lava quern, 1.2kg, 3.25cm thick, outer skin weathered away		
0123	lava stone	quern	Lava quern 1.2kg, 4cm thick, had been intact measuring 12 x 20cm.		
0124	sandstone	quern	Quern fragment, coarse sandstone with high quartz content. Includes part of central hole. Quern measures 3cm at narrowest, 5cm at widest, which is immediately around the hole. Weight 0.43kgs.		
0125	sandstone	quern	Quern fragment, high quartz sandstone. 4.4cm thick, includes 2 curving lines, probably from outer segment of the quern. Weight 0.33kgs.		
0126	sandstone	quern?	Quern fragment? Quartz sandstone 2.5-3cm thick. Surfaces unclear. Weight 0.06kgs.		
0127	sandstone	quern	Quern fragment, high quartz sandstone, one smooth surface but very fragmentary. Weight 0.02kgs.		
0128	sandstone	quern	Variable sandstone, smooth but with large inclusions up to 6cm wide. 9.5cm thick contains one level face with radiating grooves varying from 12-15mm between the grooves. Probably from edge of quern. Weight 1.43kgs.		
0129	flint	quern	Tabular flint quern fragment, approximately 7-7.5cm thick. Weight 0.46kgs.		

THE HUMAN SKELETONS FROM LAKENHEATH AIR BASE, SUFFOLK.

Sue Anderson, April 1993.

Six human skeletons were recovered in three separate excavations at Lakenheath Air Base, in 1987 (LKH114), 1992 (ERL023) and 1993 (LKH146). Five of the skeletons (those excavated in 1987 and 1993) were within 100m of each other, whilst the sixth was c.400m away from the 1987 site. They have been dated to the Roman period, but it seems unlikely that they represent a single cemetery.

1. Condition

Five individuals were in fair condition and one was poor. Skulls were present in five cases, but only one was complete.

2. Demographic analysis

The remains represent one infant, one sub-adult, one young adult and three mature adults. Fragments of one other child were also present. Three adults and the sub-adult were thought to be male, and one adult was probably female. The following table shows suggested ages and sexes for each context number.

Site	No.	Sex	Age
LKH114	01	Female	MA-Old?
LKH114	0009	Male	20-23
LKH114	-	-	c.7-8
ERL023	0124	Male	Old
LKH146	0168	Male	Old
LKH146	0186	-	Newborn
LKH146	0189	?Male	c.16

3. Metrical and Morphological Analysis

Stature was calculated for all four adults. The males ranged from 1.66m to 1.73m (5'5" - 5'8") and the female was 1.54m (5'0.5") tall. These figures are within normal ranges for the Roman period.

Cranial and post-cranial measurements were taken wherever possible, and these are recorded in the catalogue. Cranial

indices were calculated for one male (0168) and the sub-adult. The male was dolichocranial (narrow-headed) and the sub-adult was brachycranial (broad-headed). The latter is unusual in a Roman group, but may reflect the age of the individual, since the skull was rather child-like in appearance.

Non-metric or genetic traits were scored for the cranium and post-cranial skeleton, and those present are recorded in the catalogue. Nothing unusual was found, and the dispersed nature of the group make suggestions of familial relationships difficult. However, posterior atlas bridging was found in the sub-adult and the adult male from LKH146, and this trait is sufficiently rare to suggest the possibility of a relationship between them. Both also had one right and two left zygoma-facial foramina, but this trait is not unusual in most populations (although the presence of two foramina on one side is less common).

4. Dental Analysis

No teeth were present with the female skeleton and only one tooth germ survived from the infant. At least part of the dentition was assessable for the remaining four males, and tooth charts for these are presented in the catalogue. This small group showed quite a high prevalence of dental disease, partly due to the advanced age of two of the individuals.

The two young males had one caries cavity each, one (0009) in the lower right first molar and the other (0189) in the upper left first premolar. This latter was probably due to a fracture of the tooth which had resulted in the loss of the outer cusp.

Both old males showed signs of chronic periodontal disease. This was associated with caries in one (0124), but advanced wear on the teeth of the other (0168) meant that any carious cavities were no longer present. Caries was present in the upper left canine and first premolar and the lower right first molar of 0124. In all three cases the decay had resulted in the opening of the pulp cavity and subsequent abscess formation around the roots of the teeth. Abscesses also affected the lower left second molar and the upper left second premolar of this

individual. He had also lost at least seven teeth before his death. Calculus was considerable on some of the lower teeth, and had formed on the occlusal surface of the lower right second molar.

The other male had suffered ante-mortem loss of at least eleven teeth, and possibly two more if the third molars were not congenitally absent. Abscesses were present around the roots of ten of the nineteen remaining teeth, and there was gross enlargement of the alveolar bone around the upper right second molar. Deposition of calculus was medium to heavy on all remaining teeth. Despite the lack of definite evidence, it is likely that caries was the major cause of tooth loss and abscess formation in this individual.

Congenital absence of the third molars was not positively identified in any of the dentitions (three of the four belonging to the sub-adult were not fully erupted). One third molar belonging to 0168 was abnormally small and it was difficult to identify its socket with any certainty.

Enamel hypoplasia was seen on one tooth of the sub-adult, the lines suggesting that malformation of the tooth had occurred around 3 and 5 years of age. The small third molar of 0168 also showed pitting over most of the crown. No other hypoplastic lesions were observed.

5. Pathology

The three oldest members of the group all showed signs of degeneration. This took the form of new bone growth around the joints (osteophytosis) in two cases (LKH114 01 and ERL023 0124), but was more advanced in the third (LKH146 0168). This male had extensive osteoarthritis of the spine and shoulders, and osteophytosis of most joints. Arthritic changes were particularly noticeable in the cervical and upper thoracic vertebrae, whose articular facets were all affected (Grade II or III). The C5-6 vertebrae were completely fused at the bodies and articular facets, but this may have been the result of an injury rather than arthritis. It is unlikely to have affected the man's ability to move his neck, although it may have been stiff.

As well as a possible injury to his neck, this individual probably sustained a crush fracture of the right ankle at some point. Although the ankle is not fused, as sometimes occurs in this situation, there is medium osteophyte formation around the joint, flattening of the talus and calcaneus, and eburnation between the tibia and the talus. The deformation of the joint and profusion of new bone, together with secondary arthritis, probably caused the man pain on walking and it may be that he needed a stick for support. Arthritic changes in the left wrist, in particular eburnation between the pisiform and triquetral bones, may be the result of leaning on walking stick for prolonged periods.

The other old man (ERL023 0124) also had trouble with his legs and feet. His right tibia and fibula were grained and thickened, suggesting chronic periostitis. There were less marked changes to the left tibia. The right foot was also affected, with some destruction of the shaft of the fourth metatarsal, and graining and pitting of the fifth. Periostitis of the shin is a relatively common bone disease in many archaeological populations. Its causes are generally uncertain, but it may result from soft tissue infection of the leg or another part of the body. However, in this case the appearance of the 4th metatarsal is suggestive of an aneurysm, and it may be that the changes in the tibia were related to varicose veins.

A few other minor diseases were noted. Schmorl's nodes (a sign of physical stress in the vertebrae) were found in three of the four males, although none of the lesions was particularly large. The young male (0009) had a left 5th rib with an abnormally large end, probably a congenital defect, and a left 7th rib with a small osteoma (wart-like growth); neither would have caused him any trouble. Exostoses, which form when a muscle attachment is torn, were seen on one toe bone (0009), and the proximal ends of two fibulae (0168 and 0189). Osteochondritis dissecans, a disease linked with physical stress in the young, was present in the form of two unhealed lesions in the right foot of an old male (0124). New bone in the form of very small wart-like deposits over the frontal and right parietal bones of the skull of a male (0168) may have been produced by a scalp infection. A lesion in

the hip joint of the young male (0009) had the appearance of a notch cut through the edge of the acetabulum with pitting which extended onto the back of the ilium. The cause of this is unknown, but the most likely explanation would be some form of infection. This individual also had a slightly asymmetrical mandible, the left side appearing larger and more flared than the right. Again, the cause is unknown.

Summary

The remains of three adult males (one young and two old), a sub-adult male, a mature female and a newborn infant were recovered from three different sites on the Lakenheath Air Base. One site also yielded three bones of a child aged c.7-8 years. The group showed a fairly high prevalence of dental and degenerative diseases, partly due to half of them being at least 40 years of age at death. Other pathologies included evidence for trauma and infection in two of the men. Not surprisingly, given the dispersed nature of the burials, there was no certain evidence for genetic relationships between individuals, but a possible connection was noted at one of the sites where two examples of a less common trait were found. In terms of metrical and demographic characteristics, this group was not particularly unusual for the Roman period. The relatively high rate of dental caries, even amongst the younger individuals, would tend to support this date.

CATALOGUE

Notes

Measurements were taken using the methods described by Brothwell (1981), together with a few from Bass (1971) and Krogman (1978). Sexing and ageing techniques follow Brothwell, and the Workshop of European Anthropologists (1980). Stature was estimated according to the regression formulae of Trotter and Gleser (Trotter, 1970). All systematically scored non-metric traits can be found in Brothwell, and grades of dental calculus, cribra orbitalia and osteoarthritis are also listed there. Pathological conditions were identified with the aid of Ortner and Putschar (1981).

Methods of age and sex determination are generalised to give an idea of the bones used. Sexing based on the pelvis used more traits than entries might suggest.

Teeth are recorded in the form illustrated below.

Maxilla	R.	8	7	6	5	4	3	2	1	1	2	3	4	5	X	7	U	L.
Mandible		O	7	6	5	4	-	-	-	/	/	3	4	5	6	7	-	
		A		C														

<u>Code</u>	<u>Meaning</u>
1 2 3 etc.	Tooth present in jaw.
X	Tooth lost ante-mortem.
/	Tooth lost post-mortem.
U, u	Tooth unerupted.
O, o	Tooth in process of erupting.
- - -	Jaw missing.
A	Abscess present.
C	Caries present.

Lower case letters a-e and u/o are used for deciduous teeth. Attrition patterns are coded according to the scores suggested by Bouts and Pot (1989, modified version of Brothwell's original tooth wear chart).

A few abbreviations have been used in the catalogue for commonly occurring pathological conditions and anatomical regions. These are as follows:

OA	osteoarthritis	MT	metatarsal
OP	osteophytosis, osteophytes	MC	metacarpal
C	cervical)	L.	left
T	thoracic) vertebrae	R.	right
L	lumbar)		

Any other abbreviations should be self-explanatory, since they are simply shortened forms of bone names.

Skeletal forms are included after the catalogue of articulated remains, and the bones present for each burial are quickly assessable from these.

LKH114 01 Sex: Female, Age: MA-Old?

Condition: Fair, but eroded.

Fragments of L. arm, hands, pelvis, legs and feet.

Determination of age: Some degeneration.

Determination of sex: Pre-auricular sulcus present, wide sciatic notch and pubic angle. Long bones medium.

Height: 153.6 cm from femora and tibiae.

Non-metric traits: R. acetabular crease.

Pathology: Lipping of L. radial tuberosity, proximal femora, distal femoral condylar borders, proximal tibiae, slight on R. acetabulum and pubis.

Measurements:

Post-cranial:

	R	L		R	L
FeL1	403	403	TiL1	320	318
FeL2	396	398	TiE1	69	-
FeHd	42	42	TiD1	33	33
FeE1	75	75	TiD2	23	23
FeD1	27	27	Cnemic	69.7	69.7
FeD2	31	32			
FeD3	29	29			
FeD4	26	27			
Meric	87.1	84.4			
Robust	13.9	14.1			

LKH114 0009

Sex: Male,

Age: 20-23

Condition: Fair, but L. side very smashed up.

Most of skeleton, except front of skull and humeri.

Determination of age: Proximal humerus, distal radius and ulna, iliac crest and medial clavicle unfused, proximal fibula partly fused. Tooth wear slight.

Determination of sex: Mastoid processes large, mandible robust. Sciatic notch and pubic angle narrow. Bones medium-large.

Height: 166.1 cm from R. tibia.

Teeth:

- - 6 - - - - -

8 7 6 5 4 3 2 1 1 2 3 4 5 6 7 8

C

Calculus: Medium-Heavy

Hypoplasia: None

Attrition scores:

- - 2+ - - - - -

2- 2 3 1 2- 2+ 2+ 3+ 3+ 2+ 3- 2- 2- 3 2 1

Non-metric traits: L. parietal foramen, R. & L. precondylar tubercles, slight acetabular crease both sides, R. third trochanter.

Pathology: Schmorl's nodes T11-L2, very slight. L. 5th rib has enlarged end (33mm wide), probably congenital. Small exostosis on L. 5th proximal foot phalanx medial side of shaft. Small osteoma inner side of angle of L. 7th rib (11x4mm). "Notch" in L. acetabulum superior border, possibly due to lytic lesion also affecting the ilium just above, cause unknown. Both femoral heads appear slightly flattened.

The L. gonion of the mandible is more flared than the R., and the height of the body (superior to inferior) is greater by c.2mm over most of its length (difficult to be certain because most of R. alveolar bone is lost). Erosion of L. inferior margin has occurred, producing a concave area stretching from below the M2 to the gonion. There is a small conical exostosis on the margin just below the L. mental foramen. The R. temporal shows slight flattening of the anterior border of the glenoid fossa (L. lost). Cause uncertain.

Possibilities include birth defect, trauma, congenital malformation.

Measurements:

Cranial:		R	L
Mastoid Process Height:		24	25
Mandibular:			
ZZ	43	RB'	32 30
H1	38	CrH	- 58

Post-cranial:

	R	L		R	L
FeHd	50	50	TiL1	347	-
FeD1	27	28	TiE1	78	-
FeD2	34	35	TiD1	35	33
FeD3	27	27	TiD2	27	27
FeD4	26	27	Cnemic	77.1	81.8
Merlc	79.4	80.0	FiL1	343	-

LKH114 ?

R. femur, lower T vertebra and ischium of child aged c.7-8 years.

ERL023 0124 Sex: Male, Age: Old.

Condition: Poor, very eroded, skull very fragmentary.

Fragments of skull, spine, pelvis, arms, legs and feet.

Determination of age: Some degeneration. Tooth wear heavy.

Determination of sex: Large glabella, robust mandible. Narrow sciatic notch.

Height: 172.5 cm from femora and tibiae.

Teeth:

CACAA

- - - - X 3 2 / 1 / 3 4 5 X X 8

X 7 6 5 - - - - X - / / X X 7 8

CA

Calculus: Considerable

Hypoplasia: None

Attrition scores:

- - - - - 6 6- - 6 - 6- 5+ 5+ - - 4+

- ? 5 4+ - - - - - - - - - 4+ 6-

Non-metric traits: R. parietal notch bone, R&L zygoma-facial foramina (2 each side), R&L supra-orbital foramen complete. R&L acetabular crease, R&L femoral head plaque formation, R&L patella vastus notch.

Pathology: OP of zygapophyseal facets, slight on sacro-iliac joint and acetabuli, new bone above both femoral head fossae.

Thickening and periosteal pitting midshaft R. tibia, especially medial surface (area 66mm long affected), with graining to posterior. Marks on lateral surface suggest thickening of bone around blood vessels, leaving grooves. Some new bone on fibula and thickening of shaft near distal end of tibial lesion. Very slight new bone growth on medial L. tibia. R. MT4-5 also affected: MT5 has signs of graining, pitting and thickening on superior surface and destructive processes on medial; MT4 is destroyed in part at proximal end of shaft medially, perhaps by an aneurysm, and narrows towards head. Non-specific infection, possibly the result of varicose veins.

R. navicular joint with talus has small (c.4mm diameter) osteochondritic lesion centrally, but detached bone has fused to R. of lesion. Larger lesion (6x3mm) proximal end R. MT1, unhealed.

New bone formation R. ischial tuberosity suggests possible inflammation, "ischial bursitis".

Measurements:

Post-cranial:

	R	L		R	L
FeL1	470	471	TiL1	368	371
FeL2	468	469	TiE1	72	-
FeHd	51	51	TiD1	37	36
FeE1	80	-	TiD2	24	24
FiL1	364	366	Cnemic	64.9	66.7

LKH146 0168 Sex: Male, Age: Old.

Condition: Fair (skull v. good).

Almost complete skeleton, although lower vertebrae very fragmented.

Determination of age: Medium degeneration. Tooth wear/loss heavy.

Determination of sex: Skull and mandible robust. Sciatic notch and pubic angle narrow.

Height: 169.0 cm from femora.

Teeth: A A A A
 8 7 X X 4 3 2 X X 2 3 X X 6 X ?
 ? X 6 5 X 3 2 1 1 2 3 4 5 X 7 X
 A A A A A A

Calculus: Medium Hypoplasia: Only on M3.

Abscess on upper R. M3 has caused gross inflammation and proliferation of the alveolar bone.

Attrition scores:

1 7 - - 4 5 6- - - 7 6 - - 6- - -
 - - 4 7 - 5 7 7 7 7 5+ 4 4+ - 7 -

Non-metric traits: R&L lambdoid wormians, L. parietal foramen, R&L parietal notch bones, R&L mastoid foramen exsutural, L. post-condylar canal (double), slight R&L precondylar tubercles, R&L extra palatine foramina, R&L zygoma-facial foramen (2 on L), possible L. squame-parietal ossicle, R. multiple mental foramina. L. posterior atlas bridge (partial), L. acetabular crease, R&L Poirier's facets and plaque formation, L. vastus notch.

Pathology: Small deposits of bone over frontal and front of R. parietal, possible scalp infection? Schmorl's nodes T8-9.

Extensive arthritis of spine, particularly cervical and upper thoracic zygapophyseal facets. Eburnation occurs on C3-5 and C7-T7 facets, and OP with or without porosity occurs on most other vertebral and costal joints. All vertebral bodies show signs of OP. The C5-6 are fused at the bodies and facets, possibly due to arthritis, but more likely traumatic.

The shoulder joints also show signs of arthritic change, particularly the lateral clavicles and scapular acromions (Grade II). OP of most other joints, especially hands, wrists, hips, knees and ankles. Both surfaces of the L. joint between pisiform and triquetral are eburnated, possibly suggesting use of a walking stick or occupational function.

Possible crush fracture of R. ankle. The talus is flattened with very large OPs especially at anterior and posterior borders of joint with tibia, and an area of eburnation near the anterior border corresponds with eburnation on the distal tibia. The distal tibia and fibula are also very lipped. There is a possible exostosis at the proximal end of the fibula, which could have occurred at the same time if the fibula was forced upwards during the injury. The talus may have been broken across the neck, as the head is twisted out of normal alignment - the superior part is pushed round to the lateral.

Measurements:

Cranial:

L	195	R. O2	36	B'Q	318
B	146	L. O2	34	R. MPH	27
H'	141	G'1	41	L. MPH	27
LB	107	G2	34	100(B/L)	74.9
GL	97	B'	103	100(H'/L)	72.3
G'H	71	BiB	118	100(H'/B)	96.6
GB	103	FL	39	100(G'H/J)	51.8
J	137	FB	35	R. O2/O'1	85.7
NH'	53	S1	129	L. O2/O'1	81.0
NB	25	S2	137	100(G2/G'1)	82.9
SC	9	S3	120	100(FB/FL)	89.7
DC	22	S'1	116	100(LB/GL)	110.3
R. O'1	42	S'2	123		
L. O'1	42	S'3	103		

Mandibular:

			R	L
W1	127	RB'	32	32
GoGo	103	CrH	65	63
ZZ	46	CyL	24	24
H1	32	GnGo	81	80
ML	106			

CrCr 103

Post-cranial:

	R	L		R	L
FeL1	449	455	TiL1	-	-
FeL2	447	454	TiE1	-	-
FeHd	49	-	TiD1	33	38
FeE1	86	87	TiD2	26	27
FeD1	29	28	Cnemic	78.8	71.0
FeD2	37	38	HuL1	-	318
FeD3	34	34	HuHd	-	49
FeD4	30	30	HuE1	64	61
Meric	78.4	73.7	RaL1	241	233
Robust	14.3	14.1	U1L1	260	-

LKH146 0186 Sex: ?, Age: Newborn.

Condition: Fair, but skull, vertebrae and ribs very fragmented.

Most of upper half of skeleton and fragments of legs.

Determination of age: Lengths of long bones and size of tooth germ.

Measurements:

Post-cranial:

	R	L
HuL1	64	64
RaL1	52	-
U1L1	60	-
TiL1	-	62

LKH146 0189 Sex: ?Male, Age: c.16

Condition: Fair.

Most of skeleton present.

Determination of age: Distal humerus fused, proximal radius and ulna partly fused, acetabulum partly fused, everything else unfused. Only one third molar erupted. Occipital sphenoid suture unfused.

Determination of sex: Large mastoid processes, mentum robust. Narrow sciatic notch and pubic angle.

Teeth:

C

8 7 6 5 4 3 2 1 1 2 3 4 5 6 7 U

U 7 6 5 4 3 2 1 1 / 3 4 5 6 7 U

Calculus: Medium Hypoplasia: Slight (c.3 & c.5 years)

Loss of outer cusp of upper L. PM1 due to fracture.

Attrition scores:

1 2 3 1 1 2+ 2+ 3- 3- 2+ 2+ ? 2- 3 2- -
 - 2 3 1 1 3 2+ 3 3 - 2+ 2 2- 3 2 -

Non-metric traits: R&L double condylar facet, R&L precondylar tubercle, R. double hypoglossal canal, R&L zygoma-facial foramen (2 on L.), L. frontal notch (v. large). L. posterior atlas bridge, R&L atlas double facet.

Pathology: Slight Schmorl's nodes T10-12 and L3-4. Exostosis proximal L. fibula anterior border.

Measurements:

Cranial:

L	171	S1	120
B	140	S2	124
B'	94	S'1	105
BiB	109	S'2	107
FB	31	R.MPH	31
100(B/L)	81.9	L.MPH	28

Mandibular:

H1	28	RB'	27	28
		CrH	58	-
		CyL	15	-
		GnGo	75	-

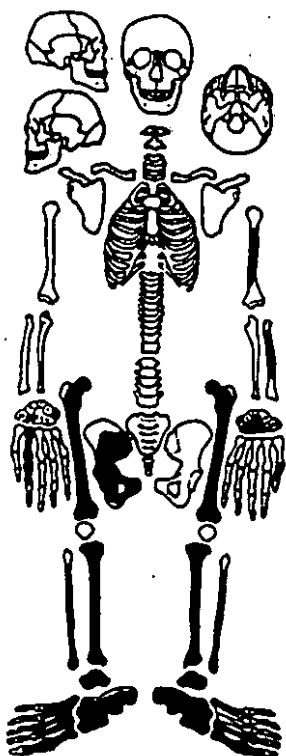
Post-cranial (metaphyseal lengths, except humerus)

	R	L			
FeL1	410	410	TiL1	326	326
FeHd	46	46	TiE1	74	75
FeE1	78	78	TiD1	30	31
FeD1	24	23	TiD2	25	24
FeD2	34	33	FiL1	313	306
FeD3	23	25			
FeD4	25	26	HuL1	327	-

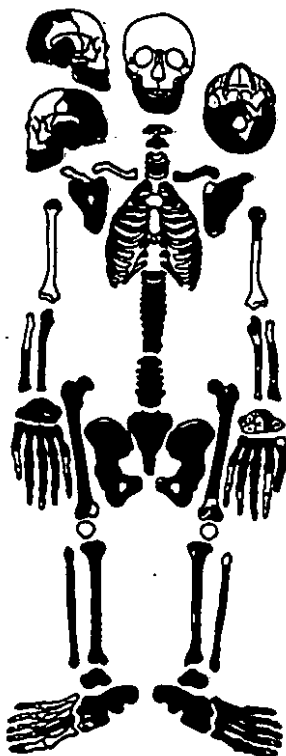
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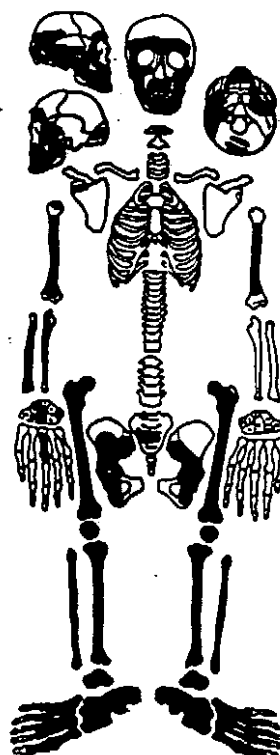
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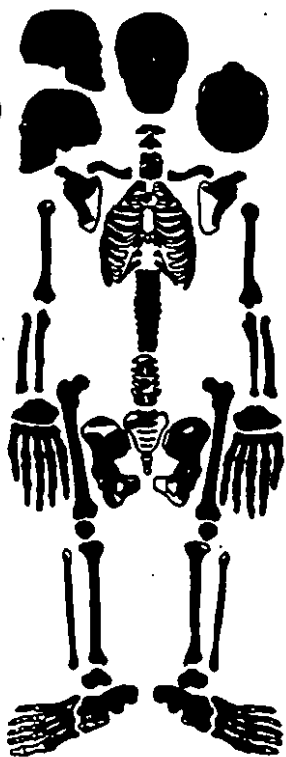
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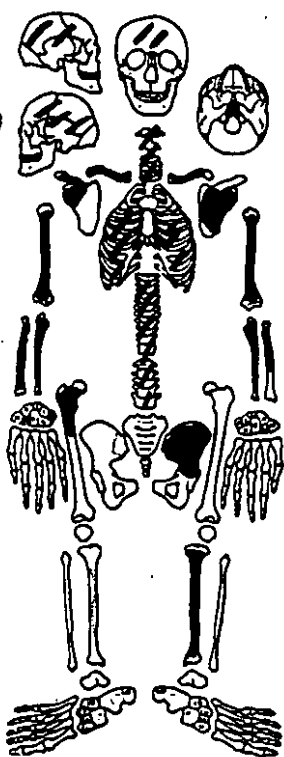
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LKH 146 0186



LKH 146 0189

