

VOLUME 6: FIELD REPORT WEST SECTOR INT 48

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For illustrations see *Research Report* and *Site Atlas*

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1. SUMMARY

Intervention 48 (supervised by Madeleine Hummler) is the westernmost arm of the cruciform transect that forms the excavated sample, which is part of the Research Project carried out at Sutton Hoo between 1983 and 1992, under the direction of MOH Carver. The zone incorporated earlier excavations by Drs. Longworth and Kinnes carried out for the British Museum between 1966 and 1970.

These studies refer to the Field records held by the British Museum, where

1-5 digit number with no prefix = Find number (see volume 10)

4 digit number with no prefix or prefix c= context record

1-3 digit number F= feature record

D= Drawing number

N= Photographic print number

S= Photographic slide number

For the location of Interventions, quadrants, modules, structures, features and contexts, please refer to the *Site Atlas*.

The area of 1400 m², located between the track to the West of the scheduled monument zone and Mound 5, incorporates two ploughed-out mounds, Mounds 17 and 18. It is a largely flat area, investigated between 1989 and 1991. Mechanical removal of topsoil and ploughsoil, coupled with fieldwalking and metal-detecting exercises, was pioneered in this zone, with satisfactory results (see sections 2 and 3).

Int. 48 proved rich in remains of successive **Prehistoric periods** albeit severely eroded.

The sequence apprehended (see section 4) starts with a **Middle - Late Neolithic** occupation (section 5.1), followed by an **Early Bronze Age** system of linear land boundaries, and, within these boundaries, pits with probably domestic, but possibly also artisan refuse (see section 5.2). Possibly still within the **Bronze Age**, the old land boundary system falls into disuse and is replaced by a **fenced enclosure** made of close-set posts enclosing an area estimated to be at least an acre (see section 5.3). This enclosure is replaced by a later **palisaded enclosure** (see section 5.4) thought to belong to the **Iron Age**, through the presence of pottery of Darmsden type. This enclosure, some 40 m wide, may have further field boundaries or a paddock added to it and is part of a late system of land-use documented at Sutton Hoo through air-photography.

Though evidence is tenuous, it seems likely that the zone to become the Anglo-Saxon cemetery at Sutton Hoo was ploughed prior to the erection of the Mounds, perhaps in **Roman** times (see section 6).

The area of Int. 48 proved extremely rich in **Anglo-Saxon** funerary remains, some unexpected, betraying a range of different rituals, including:

- **Burial 53**, a grave with severely decayed remains of a human body in the base of a quarry pit belonging to the construction of Mound 5 (see section 7.4)
- **Two cremations (Burials 13 and 14)**, one turned and one unburned, uncovered by Longworth and Kinnes in 1968, to the East of Mound 17 and West of Mound 5 (see section 7.3.2)
- **A pit with human skull (Burial 56)**, also uncovered by Longworth and Kinnes in 1968, reinterpreted as a **grave**, with C14 date of 746 ± 79 AD (see section 7.3.1)
- A ploughed-out **cremation burial (Burial 11)** contained in a fragmented bronze bowl and remains of textiles and a bone comb, discovered under the former **Mound 18**, ploughed completely flat (see section 7.2)

- The intact inhumation of a young man with weapons, vessels, ornaments and a horse bridle, accompanied, in a separate grave, by his horse, under **Mound 17**, which, probably because it was ploughed flat, had escaped the attentions of grave robbers in 1860. The discovery, methodology and reconstruction of the burial rite of this uniquely preserved grave forms the largest part of the present report (section 7.1).

2 STRATEGY

2.1 Aims and Objectives

Int. 48, an area of c. 1400 m² to the west of Mounds 5 and 6, running towards Top Hat Wood and encompassing the ploughed-out Mounds 17 and 18, is the subject of this field report.

Being the western arm of the Sutton Hoo cruciform transect sample, the primary aim of the area of excavation was to understand the Anglo-Saxon cemetery topography between the main mound area and the western edge of the promontory, as it plunges into Top Hat Wood. The target was more than attained since, for the Anglo-Saxon period, Intervention 48 produced quarry pits (with probably sacrificial burials) for Mound 5, a ploughed cremation burial originally with bronze bowl and bone comb under Mound 18 and an intact 'princely' inhumation burial with accompanying grave goods, including a highly ornamented bridle under Mound 17. Mound 17 also contained, next to the prince, an intact inhumation of a horse in near-perfect condition. These discoveries, made between July 1989 and November 1991, add considerably to the findings of Drs Longworth and Kinnes (1980) who excavated in the same area in 1966-1970.

Intervention 48 proved rich in prehistoric remains, albeit severely eroded. A second objective, namely to establish a sequence for the main landscape elements present in the prehistoric period at Sutton Hoo, was also reached: it was thus decided to concentrate upon the excavation of major prehistoric feature families which include a late Neolithic - Early Bronze Age field boundary system, domestic débris, including a Beaker pit, a Bronze Age fenced enclosure and an Iron Age palisaded enclosure.

The preliminary sequence put forward by Longworth and Kinnes (1980) was more than vindicated by the excavation on Int. 48. Since Intervention 48 is rich in both Anglo-Saxon and prehistoric finds, some care has also been taken in summarising the finds assemblages recovered.

2.2 Operations Undertaken

Intervention 48 is the western arm of the cruciform transect which represents the minimum viable sample at Sutton Hoo (Bulletin 4, 1986: 52, fig 34) and is also known as Sector 4. The choice of size and method of recovery of the sample is detailed under Section 2.4.

The final shape and location of Intervention 48 is from the 047 easting to the 108 easting along its eastern axis, and from the 143 northing to the 179 northing along its northern axis.

This represents an area totalling 1436m², being 36m wide at its widest and 61m long at its longest. It is located to the west of Mounds 5 and 6 (it thus joins Interventions 41 and 44); it is a flat area comprising Longworth's and Kinnes' excavations of 1966-1970 (Area A = Intervention 11, Longworth and Kinnes 1980), two putative ploughed burial mounds detected in topographic surveys (Mounds 17 and 18, Intervention 18) and the medieval boundary bank skirting the western track bounding the scheduled monument. The area of excavation that is Intervention 48 was chosen so that the western transect would link the zone of Top Hat Wood (Zone C, Bulletin 4, 1986: 7 and fig 7) with the main mound area (Zone A), thus crossing the existing western access track. The resulting area therefore has a 'stepped' aspect, allowing the connection with Top Hat Wood to be made without too much disruption to the track.

The excavation of Intervention 48 was a protracted affair, carried out over 5 seasons. It was supervised by M Hummler (1989-1991) and Annette Roe (1991).

The site was opened on 4 July 1989, along its (then) northern edge on the 167 northing, and the area opened as far as its southern edge on the 143 northing was subsequently cleared to natural subsoil, mapped and individual features excavated until the end of September 1989.

A second season, from 9 July 1990 until August 1990 concentrated upon the excavation of discrete features in the southern half of the area. In March-April 1991, a northern strip, from the 167 northing to the 179 northing was opened, fieldwalked and cleared to Horizon 1 level. Excavations of this northern strip resumed on 8 July 1991 and continued until November 1991, as the discovery of an intact Anglo-Saxon 'princely' burial with accompanying horse inhumation under Mound 17 necessitated skill and care (Annette Roe: excavations and records). The finds from this intact burial were lifted by a team from the British Museum Conservation Laboratory in early November 1991 (Hazel Newey, Fleur Shearman, Man-Yee Liu) under the directorship of Martin Carver. Finally, in March 1992, A J Copp returned to Intervention 48 to complete the excavation of F292, to carry out a survey of the surface of the natural subsoil and to prepare the area prior to backfilling in April-May 1992.

The site has been restored to its 1983 aspect and the early-medieval graves encountered on Int. 48 have been marked with gravel on the ground. In all, 364 features and 598 contexts were defined within the area of Intervention 48. Of these, 128 features were excavated or removed after all had been mapped in outline and a total of 8357 finds were recorded.

2.3 Recovery Levels

The practice of assigning recovery levels, also known as data acquisition levels, pioneered by Martin Carver in rescue situations in the West Midlands in the 1970's (BUFAU guide 4) was developed and refined at Sutton Hoo (cf. Research file Z.8.1 (54) Section 1.4, Carver 1988, reproduced as part 10 of vol. 1). It was applied throughout the campaigns at Sutton Hoo and figures on every context and feature record card as well as on the finds' index. The recovery levels range from coarse mechanical removal of soil (level A) to extremely fine dissection (levels E and F): the table in Research file Z.8.1 (54) 1.4 summarises what records should be made at each level. The method allows consistency between the method of removal and the degree of precision of the records resulting from this action and provides an analytical framework: thus, for example, only finds recovered from different contexts but at the same level can be compared fruitfully.

In practice, on Int. 48, the following recovery levels were applied (further information will also be found in Section 3.1 (Procedures): over the whole of Int. 48, context 1000 (turf and topsoil) was machined at level A, then metal-detected and field-walked at level C. The same procedure was followed for context 1001 (ploughsoil, also patches 1010 and 1016) but the finds recovered at level C were picked up during clearing of the remnants of 1001 instead of fieldwalking.

The 'buried soil' contexts 1027, 1028, 1056, 1058 and 1089 in the southern half of Int. 48 were recorded at level C.

In the northern part of Int. 48, the 'buried soil' contexts 1461, 1462, 1471, 1472 and 1473 were also recorded at level C, but excavation slowed down to recovery level D for contexts 1479, 1508, 1512 and 1550. The context records describing cleaning and definition operations undertaken in order to reach Horizon 2 (contexts 1121, 1146, 1161, 1162, 1163, 1164, 1165 and 1354) were made at level C.

Two vertical sections were recorded along Int. 48. One is a 1m wide and 34m long baulk (subsequently removed) along the 154 northing, from the 55 to 89 easting: the contexts encountered (contexts 1197, 1198, 1199, 1200, 1207, 1208, 1209, 1210, 1212, 1214, 1215, 1216, 1217, 1299, 1300, 1301, 1302, 1303, 1315, 1316, 1317, 1318) were removed by shovel at level B and the finds recovered by m²; monoliths and Kubiena samples were taken through contexts 1198, 1199, 1200, 1201, 1208, 1300, 1301, 1302, 1303 and 1315, 1316, 1317, 1318; the 'buried soil' contexts 1199, 1209 and 1216 encountered in the baulk were dry-sieved in their entirety and the finds recovered at level C; in addition one bucket per m² from these contexts was also wet-sieved; full written descriptions of each context and a 1:10 colour section (D 128-132) were also made.

The second vertical section recorded along the southern edge of Int. 48, along the 143 northing and from the 47 to 89 northing (42m in length) was recorded in colour at 1:10 (D312-15, D362-5). The contexts recorded in plan in the southern part of Int. 48 were used with the addition of a few contexts (1408, 1409, 1410, 1458, 1459, 1460), visible in section. These were recorded at level C. Finally, the 128 features selected for excavation were recorded at level D: a full description of what records are made at this level is set out in a guideline (Research file Z.8.2 (9) Hummler and Copp 1990) used during the field school sessions. If, for one reason or another, a feature was not excavated at level D (eg quarry pit F288 excavated rapidly at level C), this is clearly stated in the records.

Finally, the "princely" burial F318 under Mound 17, initially recorded at level D showed down to the pace of level E once the feature had been recognised as an undisturbed grave (see section 7.1.5 of this report). The bridle complex F358 recognised at the west end of the grave was recorded at level E *in situ* in November 1992 and then lifted as a block and dissected at level F in the British Museum Sturge Basement (see section 7.1.5.13-14).

Context sampling for eventual pollen analysis of soil was carried out routinely for each context, whereas charcoal samples and samples for flotation of macro-botanical remains were taken on a 'grab' basis (or so-called judgment sampling) when deposits looked promising. In addition, a number of other samples were collected, with specific scientific analyses in mind. Monoliths and Kubiena-box samples (for soil-micromorphology and pollen analysis) were taken from the 154 and 143 northing section as well as from pits F29 and F2, quarry pit F4 and natural feature F24 (these are mapped on D372). The results from one of these sampling exercises (soil micromorphology of the pit F29 infill) have been presented by C A I French in a report of June 1992 (see Z.2.2 (19) in archive). In addition, a large number of soil samples were taken from the base of the cremation burial F231 under Mound 18 (222 samples) and from the grave F318 under Mound 17 (221 samples) for eventual chemical mapping or analysis of decay products.

2.4 Modifications to Strategy

The main modification to strategy to be reported upon in the western sector, or sector 4, is the changing shape and size of the projected Intervention 48.

A western arm to the cruciform transect proposed as the minimum viable sample of the Anglo-Saxon cemetery at Sutton Hoo was considered crucial to the understanding of the cemetery development from the inception of the Research Programme, detailed in Bulletin 4 (1986: 53 and fig. 33). However, a relatively 'thin' arm including only Mound 18 was thought sufficient to reach the stated objectives. In 1988, the revised excavation sample published in Bulletin 5 (fig. 3) shows that the area of sector 4 had shifted northwards to include both Mounds 17 and 18. This was also the sample published (as fig. 1) in Bulletin 6 in spring 1989.

Excavation of sector 4, or Intervention 48, started in the summer of 1989: the southern part of Int. 48 was opened, including Mound 18 but excluding Mound 17 and continued to be excavated in 1990. This was published in 1990 in Bulletin 7 (fig. 1 and 4 and p.13). At this stage, it was the opinion of the Director that "the excavator of both Mounds 17 and 18 would give a measure of redundancy, and so one can be omitted" (Bulletin 7, 1990: 5). But as Mound 18 proved to be an extremely eroded cremation burial, yielding only the barest information as to the type of ritual practised, it was felt that Mound 17 should, after all, also be investigated. The reasons for reinstating the northern part of Int. 48 were manifold:

- a. Mound 18 could not be considered a representative sample and another chance to investigate a nearby barrow should be taken.
- b. The time and effort employed in excavating the northern part of Int. 48 was justifiable and not too onerous, as a large part of the area had already been excavated by Longworth and Kinnes in 1966-70 (Int. 11).
- c. For consistency, it was felt that the northern edge of the western arm of the cruciform context should coincide with the northern edge of the eastern arm (or Int. 50) along the

179 northing, thus giving a continuous 140m long W-E profile through Sutton Hoo to match the main N-S profile.

- d. From the prehistorian's point of view, the results reported from the southern part of Int. 48 (Bulletin 7, fig. 4) predicted that the corner of an Iron Age enclosure and the trajectory of an Early Bronze Age ditch system would be encountered under Mound 17. The excavation of a northern part was therefore also desirable for the prehistoric sequence.

Thus, in spring 1991, the northern part of Int. 48 was opened and led to the discovery, between September and November 1992 of an intact Anglo-Saxon burial complex under Mound 17. The preliminary results from that excavation are reported in Bulletin 8 (1993).

Of less import are slighter modifications to the shape of Int. 48 along its extreme western edge: it was originally intended to excavate a rectangular area, fully beyond the track that skirts Top Hat Wood and into Top Hat Wood itself. But lengthy and painstaking excavation of the medieval bank that borders the track to the east, as well as unwarranted disruption to the track, meant that only a small part of Int. 48 was allowed to reach into Top Hat Wood. The result is the stepped aspect of the western end of Int. 48. A trench into Top Hat Wood proved extremely valuable, as it showed that a ditch which is part of the Early Bronze Age land boundary system continues beyond the edge of the Sutton Hoo promontory.

Finally, some modifications were made to the method of excavation employed, the most important one being the decision to remove topsoil and ploughsoil by mechanical excavator rather than by hand, as previously done on Int. 41 and 44. The decision to do so was fully argued in Bulletin 7 (1990: 23 and fig. 8) and benefited from the lessons learnt on Int. 41. Int 48 was the first area excavation to be opened mechanically and was followed by Interventions 50, 52 and 55.

2.5 **Analyses Undertaken** (Referred to paragraphs in the Field Report]

- 2.2. Location of Int 48
- 2.3 Location of monoliths and Kubiena samples

- 3.1 Section E-W through Int. 48
- 3.2.1 Location of Int 11
- 3.2.2 Surface features survey
- 3.2.3 Metal detector survey
- 3.2.4 Contour survey
- 3.2.5 Magnetic susceptibility plot
- 3.3.1 Location of quadrants [7]
- 3.3.2 Location of horizon maps [8]
- 3.4 Features at Horizon 1 [19]
- 3.5 Features at Horizon 2 [27]
- 3.10.1 Distribution of metal in topsoil
- 3.10.2 Distribution of metal in ploughsoil
- 3.10.3 Distribution of metal above Horizon 2
- 3.10.4 Distribution of metal in features
- 3.10.5 Distribution of bone in features [33]
- 3.10.6 Distribution of Bflint in topsoil
- 3.10.7 Distribution of Bflint in ploughsoil
- 3.10.8 Distribution of Bflint in buried soil
- 3.10.9 Distribution of Bflint above Horizon 2
- 3.10.10 Distribution of Bflint in features
- 3.10.11 Distribution of Flint in topsoil
- 3.10.12 Distribution of Flint in ploughsoil
- 3.10.13 Distribution of Flint in buried soil
- 3.10.14 Distribution of Flint above Horizon 2
- 3.10.15 Distribution of Flint in features

- 3.10.16 Distribution of Flint implements
- 3.10.17 Distribution of Ceramic in topsoil
- 3.10.18 Distribution of Ceramic in ploughsoil
- 3.10.19 Distribution of Ceramic in buried soil
- 3.10.20 Distribution of Ceramic above Horizon 2
- 3.10.21 Distribution of Ceramic in features

- 4.2 Evidence for sequence from stratigraphy
- 4.3.1 Selection of datable finds: ceramic
- 4.3.2 Selection of datable finds: flint implements
- 4.5 C14 dates - location
- 4.6 Model of sequence [34]

- 5.1 F116, plan and section
- 5.2 F29, plan and section
- 5.3 Fence - plan
- 5.4 IA enclosure F56 etc. [36]

- 6.1 Plan of plough marks

- 7.1 Mound 17
 - Location of Mound 17
 - Section from Longworth and Kinnes 1980
 - General plan of F318, 319, 292, Iron Age Enclosure, Neolithic/Bronze Age ditch, Medieval bank and ditch, and ploughing
 - Section and reconstructed profiles N-S through F318, 319 and 292
 - Stage plans from the Level 2 records. Stage 4 (D491) [COLOUR]
 - Stage 10 (D509)
 - Stage 11 (D511)
 - Section through coffin, Stages 9-11 (D512)
 - Plan of objects discovered in F358
 - F318, stratification diagram
 - Plan and profiles of grave pit F318
 - Plan and profiles of grave pit F319
 - Organic debris in the backfill of F319 (D445)
 - Stage 6 plan of horse burial in F319 (D454) [COLOUR]
 - Stage 6 plan of horse skeleton, showing finds numbers of bones (D457)
 - Diagram showing the buried soil at its original height with plough marks and the thickness hypothetically stripped of turf
 - Diagram of grave pit F318m, showing possible use of post F357
 - Elements of the shield
 - Reconstruction of bag F360 and contents
 - Plan of 358 (a) in the ground, and (b) after excavation in the British Museum laboratory (1:5). [NB: See also map attached to Finds Location Record for 8107 for a version of the relative positions of 8109, 8107, 8071, 8108, 8110]
 - Elements of a saddle and reconstruction
 - Elements of a bridle and martingale
 - Elements of a body harness
 - Reconstruction of bridle and body harness
 - Elements and reconstruction of tub F353
 - Diagram showing relationship between the comb and the coffin
 - Axonometric reconstruction of the coffin in its collapsed state based on seven profiles N-S [refer to Table 1]. Taken from stage plans
 - Outline of maximum coffin stains, Stages 1-9
 - Reconstruction of coffin
 - Elements attributed to the coffin lid
 - Detail of body

- Detail of the sword complex
- Plan and restored profile of F292
- Imaginative reconstruction of the day of burial, Mound 17
- Imaginative reconstruction of the form of Mound 17

7.2

- Mound 18 ; location and suggested diameters of spread mound and original mound. Include bank F224 [D 281]
- Plan and section of F 57, 231 [D202, 203, 204, 205, 206] Include 'mole-runs etc F 86, position of F56.
- Distribution of cremated bone and other relevant finds against the locus of F 57 and 231 [D 195, 282 etc]
- Ferrous and non-ferrous fragment scatter in the area of Mound 18, as anticipated by metal detector surveys or recovered by surface collection before excavation.
- Plans and sections of Burials 13, 14, 56

7.4.1 Quarry pits F3-6, F288 for Mound 5; plans and sections

7.4.2 Burial 53; plan and section

3. THE DATA ACQUIRED

3.1 Procedures

Intervention 48 was the first of the 'flat' areas of excavation to have benefited from the lessons learnt on Interventions 41 and 44.

Int. 41 had been completely stripped by hand from the turf down, as a considerable workforce was then available all year round, thanks to MSC funding. Analyses of the recovery of finds from the overburden on Intervention 41 (cf Bulletin 7, 1990: 22-25) showed that, on the one hand, quarrying in the Anglo-Saxon period and subsequent ploughing had distorted the prehistoric distribution of artefacts and, on the other hand, that finer recovery levels had not altered (except quantitatively) the overall distribution pattern of finds in space. Consequently, it was felt that diagnostic distributions of artefacts in the overburden could be obtained much more economically by machining the turf, and then agitating mechanically ("ploughing") the extant soil horizons, each episode being followed by a session of fieldwalking and metal detecting. Intervention 48 was the first area where the new procedure was adopted, and was subsequently refined and carried out on Interventions 50, 52 and 55.

Intervention 48 was stripped in the following manner: a Drott mechanical excavator (on hire from Cubitt Plant Hire) was used to remove the turf and attached topsoil (context 1000), to a depth of 15cm, backblading with his open front bucket in an east-west direction, starting at the junction of Intervention 48 with Intervention 41 (see photos N443/10-11, N433/17-20). The stripped area was then 'ploughed' with the Drott returning and, dragging his front bucket teeth backwards, creating furrows at 20-25cm intervals and 6-8cm depth. The surface was then fieldwalked and metal detected for all visible finds (metal, flint, burnt flint, ceramic) using the furrows as guides, and all finds were allocated to context 1000, bagged and plotted to the nearest m² (level C) (see photos N433/12-16, N433/25, 28, 31-37, N439/7-8). After this first episode, the mechanical excavator returned once more to the area, removing up to 25cm of ploughsoil (context 1001), again backblading with his open front bucket. This second spit was not ploughed, for fear of scoring the tops of visible features and disturbing the remnant buried soil expected (see photos N439/0-06, 09-16, 21-25, 28-29, 32, 33, 37). The surface was not fieldwalked again after the second machining, as finds were recovered (at level C, to the nearest m²) during the subsequent cleaning episodes (shovel scraping and fast trowelling at recovery level C of the remnants of C 1001) (see photos N439/17-20, 26, 30, 31, 36).

The northern part of Intervention 48 (167-179 northing) (see photos N565/1-2 and 5-10, N577/8-9), being opened two years later (in 1991) was the subject of a slightly gentler approach. The turf and topsoil © 1000) were treated in the same way as in the 1989 stripping (machining by Case

mechanical excavator, using a shallow bucket on his back actor, "ploughing", fieldwalking, metal detecting) but the ploughsoil © 1001) was treated with greater care, the machine only removing 10cm overall and the remainder being trowelled (at level C, with finds recorded to the nearest m²) down to a mid-brown sandsiltsoil (context 1461), a ploughed buried soil visible at Horizon 1 (see below).

In all, the removal of turf, topsoil and ploughsoil over the entire area of Intervention 48 took 6 days, during which all the finds recovery took place. The finds yield from the stripping operation (contexts 1000 and 1001) can be seen in AutoCAD general distribution plots (see analyses). It is worth noting how little ceramic was recovered from the topsoil, the distribution of burnt flint and flint being much more common. At ploughsoil level © 1001), the distribution of all three classes of material follows closely the geography of the surviving buried soil (see below). The exercise showed that, firstly, ceramic has suffered more severely from surface erosion and, secondly, that artefacts from the ploughsoil cluster in surviving patches of ploughed ancient soils.

Once the overburden had been cleared from the surface of Intervention 48, excavation followed fairly standard procedures, namely fast trowelling, followed by slow trowelling, to reveal the outline of features cut into the natural subsoil at Horizon 2. Once a satisfactory surface had been achieved, the geometry of this surface was recorded within a series of quadrants and modules. The area of Intervention 48 was divided into a series of 18 quadrants, generally 8m wide (along the eastern axis) and 12m long (along the northern axis), labelled A to S. These quadrants are further divided into 3 modules each (labelled A1, A2, A3, etc.) of 8 x 4m; they represent the best size for individual oblique photographs taken from a photographic tower, generally located to the west of the module; these module photographs (printed to A4 and kept in the file Y6) are the original record of the surface at Horizons 1 and 2 (subsoil surface) and are used to help in the mapping of features. The features outlines were then tagged, plotted (using a theodolite and hand-held computer) and mapped at 1:10 within each module. Horizon 2 mapping proceeded in an east-west direction, in the following order: quadrants F,E,D,C,B,A,L,K,J,H,G,M,N,S,R,Q,P,O.

An additional stratigraphic record in Intervention 48, apart from that routinely recorded in context and feature cards, was made along two *section* lines: a baulk (subsequently removed) along the 154 northing, and a continuous section running along the southern edge of the area, along the 143 northing (see drawings nos. 128-132, 312-315 and 362-365). The northern edge of Intervention 48 (along 167 northing, moved northwards to 179 northing) was not drawn, as too much of it had been removed by the Longworth and Kinnes excavations of the 1960's. However, there exists a survey of the heights of the turf and natural subsoil along the 179 and 167 northing (see drawing no 524).

Rapid (level A/B) clearance to Horizon 2 was not always desirable. From the 092 easting westwards (and over the whole of the northern extension) it became apparent that *buried soils* remained either extant or in a ploughed form, deepening westwards (as had already been noted by Longworth and Kinnes 1980: 7-9 and fig. 4) under Mounds 17 and 18. Accordingly, a series of buried soil contexts (1027, 1028, 1056, 1058, 1089, 1461, 1462, 1471, 1472, 1473, 1479, 1508, 1512, 1550) were defined, finds assigned to them (a large proportion of the Intervention 48 finds' population) and the outline of their extents mapped (see Horizon 1 map). These contexts were then trowelled (at Level C in the southern part of Intervention 48, at Level D in the northern extension) before Horizon 2 could be reached.

Once Horizon 2 (subsoil level) definition had been achieved satisfactorily over the whole of Intervention 48, selective *excavation of identified features* or families of features could be carried out. This was done at Recovery Level D (and E for Mound 17), according to the guidelines set out in the Sutton Hoo methods volume (see Z.8.1.54 in archive). In all, a third of all the mapped features were excavated during excavation of Horizon 1 or at Horizon 2, ie a total of 128 features out of 364. For a list of all excavated features, 'floating' contexts (contexts not contained within a feature) and contexts allocated to natural subsoils, see tables 1, 2 and 3. For maps of features at Horizon 1 and Horizon 2, (the excavated features are marked in black, the buried soils stippled, the remains of the bank and track hatched).

3.2 Pre-excavation surface and sub-surface surveys and previous excavations in the zone of Intervention 48

The area to become Intervention 48 had been the subject of the following investigations prior to the start of work in July 1989:

- Int. 11 *The excavations (Area A) of Drs Longworth and Kinnes* in 1966-1970 (Longworth & Kinnes 1980) which revealed a buried soil (to be equated with the survival of Mounds 17 and 18) to the west of their excavated area, a series of prehistoric ditches, gullies, pits, scoops and postholes, including Ditch 1, dated to the Late Neolithic (Peterborough ware) and Bronze Age (Ardleigh urn) and Ditches 2, 3 and 4 dated to the Iron Age by the presence of sherds of Darmsden ware. For the Anglo-Saxon period, a large pit (Pit 1) contained a single human skull accompanied by a glass bead and a bronze fitting, dated by C14 dating to 670-830 AD (this pit equals Burial 56 of Carver's list of burials at Sutton Hoo, Bulletin 8/9, 1993) and two cremations, one unurned and undated (in Area Aiii) and one in a ceramic vessel, possibly dated to the 6th-7th century AD (in area Aiv). These cremations equal Burials 13 and 14 of Carver's list of Anglo-Saxon burials at Sutton Hoo (Bulletin 8, 1993).

The findings of Longworth and Kinnes can be consulted in their 1980 report. The subsequent excavation of Intervention 48 more than vindicated their interpretation, particularly of the prehistoric episodes of the site.

- Int. 18 is the *surface feature map*, constructed by Copp and Royle in 1983 and 1984 (cf drawings D5, D18, D21 of Intervention 18). These drawings show Mounds 17 and 18 truncated by the medieval bank, as well as recent features (two spoilheaps left from previous BM excavations and an area of dark moss, created from the disturbance occasioned by the removal of the spoilheap from the Mound 1 re-investigations by Ashbee in 1967-70, Intervention 7).
- Int 27 refers to the *metal detector survey* carried out by Cathy Royle in 1983 and 1984 (cf D30 of Intervention 27). In the area of Intervention 48, the scatter, mostly spent ammunition, is fairly even, with a light concentration of cartridge cases against the medieval bank, bounded to the west by a wire fence (solid black line).
- Int 30 is the *contour survey* of the scheduled monument, carried out in 1983-4 by Bruce, Ingram and Cooper with contours at 10cm intervals. The contours show, for Intervention 48, most clearly three little left-over spoilheaps, but beneath them the faint 'wiggles' that will subsequently become Mounds 17 and 18 can just be recognised. Mounds 17 and 18 were also captured on colour photograph (Plate 1), in the form of two slight ridges (marked by ranging poles) on the turf adjacent to the medieval bank.
- Int 45 represents an area, to the south and west of Mounds 6 and 7 (and therefore partly in Intervention 48) where a *magnetic susceptibility survey* was carried out in 1988 (Clark 1989). All anomalies detected can be assigned to recent disturbances or changes in the vegetation cover resulting from these disturbances.

These interventions are the sum of the investigations carried out before opening the site in 1989.

3.3 Horizon definition and recording

Two horizons (Horizon 1 and Horizon 2) were recorded over Int. 48: they represent, for Horizon 1, the surface encountered after mechanical removal of the ploughsoil 1001, which revealed patches of surviving ancient soil or "buried soil" and, for Horizon 2, the surface of the cleaned

natural sand and gravel subsoil.

As set out in section 3.1 (procedure) a fairly rapid approach to horizon recording was adopted in the southern part of Int. 48 in 1989 and 1990, whereas the northern part of Int. 48 (from the 167 northing northwards) benefited from more detailed recording in 1991, as measures were taken to recognise the ploughed out Mound 17 as a platform of ancient soil.

In the southern part of Int. 48, no detailed records of Horizon 1 were made: the surface revealed at Horizon 1 was mapped at 1:100, showing the outline of remnant patches of "buried soil" as well as some superficial features (see D127). The photographic record consisted of general shots of the surface during and after cleaning (N439/9, 12-16, 21-31, 34-7) and records of the nature of the encountered buried soil (N439/32-3, N448/14-15, N452/1-2, 11). Finds were recovered at level C (to the m²) and detailed written descriptions of the buried soils 1027 etc. were compiled. Thereafter cleaning down to Horizon 2 was carried out, by either removing by trowel at level C the remnant patches of ancient soil, or by cleaning the 'dirty natural' or B/C horizon (which somewhat obscures the outline of features cut into natural subsoil) down to "clean" yellow natural subsoil: a series of context numbers (1121, 1146, 1161, etc) was allocated to these cleaning layers, as were a string of context numbers describing the natural subsoil itself (contexts 1022, 1026, 1055, etc.). A list of these contexts and their location can be found in Tables 2 and 3 of this report.

At horizon 2, in the southern part of Int. 48, the procedure outlined in section 3.1 was carried out, resulting in a series of Horizon 2 oblique overhead photographs of 8 x 4m "modules" (see N442/2-3, 9-12; N445/1-3; N448/10-12; N452/3-5, 12-14; N457/13; N458/1-3; N463/14-15; N464/8-15; N471/1-2, 6-9, 12; N475/1,6; N481/1) which were then planned as outline feature maps at 1:10 on sheets of A1 film. The Horizon 2 map (see *atlas*, is a 1:100 amalgamation of the field drawings, showing the feature population over the whole of Int. 48.

In the northern part of Int. 48, greater care was taken in the recording of Horizon 1 in the area of the expected Mound 17, ie to the west of the Longworth and Kinnes backfilled excavations of the 1960's (Int. 11). After removal (by machine) of the ploughsoil context 1001, Horizon 1 was defined as context 1461 and photographed (N577/8-9; N597/2,4; N599/2-4, 7-10, 14-15). Thereafter, a series of 2cm definition spits (contexts 1462, 1471 onwards, listed in Table 2) through the remnant ancient "buried soil" were trowelled at recovery level C (for 1462, 1471, 1472, 1473, 1476) and level D (for 1479, 1508, 1512, 1550). These were recorded photographically as N597/8, 25; N601/6-9; N609/12 and mapped at 1:10 (see D373-379, 392-397, 399, 404, 405) as well as recorded in sections quadrantting Mound 17 (see D400-403). The Horizon 1 map (D127) reveals the extent of these ancient soil contexts as well as the features cutting them (the plough furrows F282 and F290, the area disturbed by rabbit burrows 1476 which is to become the burials F318 and F319).

The Anglo-Saxon burials F318 and F319 were first recognised at Horizon 1 as an area of sandy disturbance 1476. Their clear outline was however only visible at Horizon 2, where they were mapped at 1:10 (see D 391-7, 406, 425-6) and excavated, originally at level D until recognised as graves, when recording changed to level E and excavation followed a series of 11 stages (see section 7.1). The photographic record of Horizon 2 consists of N607/7-8, 13-15; N614/10; N619/3,8; N636/4, 12-13. The remainder of Int. 48, outside the quadrantted Mound 17, was recorded in the same way as Horizon 2 elsewhere, with modules photographed and planned at 1:10 (see D 380-390) resulting in the composite plan at 1:100 (D9).

3.4 Definition and Recording at Horizon 1

The removal of topsoil and ploughsoil contexts 1000 and 1001 (see procedure above) revealed a mid-brown soil (see for example photos N597/2 and 4, N599/3 and 10), originally lying all over the subsoil on Intervention 48 (documented in sections D128-132, D312-313, D362-365) but machined away in the southern and central-eastern part of Intervention 48. This soil was ploughed in a west-east direction, as well as a north-south direction. The question is whether ploughing took place on more than one occasion and whether ploughing episodes can be ascribed

to specific phases. Undoubtedly, the ground was ploughed in post-Anglo-Saxon times, as it eradicated Mounds 17 and 18. Witness to this episode are the deep N-S furrows F86 and F87 which cut through, and scattered the cremation burial F57/F231 under Mound 18. The evidence for ploughing of Mound 17, except that it was nearly flat at Horizon 1, is a little more difficult to interpret, as very recent intensive rabbit burrows (C1476 on photo N597/8) masked any direct stratigraphic relationship between the graves F318 and F319 and the plough furrows.

It is, however, also possible that a more ancient, post-Iron Age (Roman) plough episode is visible at Horizon 1. The west-east furrows (F282), although quite likely to be late medieval or modern, might be ancient: they cut the Iron Age enclosure ditches but do not continue further east across the Mound 5 quarry pits F287, F288. This may be fortuitous, but one further hint of a post-Iron Age/pre-Saxon (or Saxon pre-Mound, as suggested by Dimpleby in Bruce-Mitford 1975, vol. 1, p. 63-4) ploughing is given by the distribution and quantities of ceramic pottery sherds thought to be of Roman or post-Roman date. Indeed, though few, more sherds of these types are found in the ploughed top of the 'buried soil' contexts and in the very top of features than anywhere else on site. The tentative suggestion that the area of Intervention 48 was ploughed in Roman or sub-Roman times is further reinforced by similar findings from the buried soils under Mounds 2 and 5 in Intervention 41.

Few features could be ascribed to Horizon 1, outside ploughmarks. Some are superficial discolourations which turned out not to be features (F285, F291). Apart from in the area of the pre-located mounds 17 and 18, all features were defined against the natural sandy subsoil once the buried soil had been removed, and there was no programme of definition allocated for features which may have cut buried soils.

However, one feature - F292 - being placed exactly centrally between the burials F318 and F319 under Mound 17, deserves special mention. This feature, though not very well defined and with a constantly changing outline, had been noticed from very early on in the excavation of Mound 17, at Horizon 1 (see drawings D373-5) and in the running quadrant sections through Mound 17 (see drawing no D400) as a patch of very fine silt filling a shallow depression. Upon excavation, Andrew Copp came to the conclusion that it was a posthole ("there is little doubt the feature would have held a post" on feature description card) disturbed by rabbit burrows. If this is the case, then F292 might represent a central marker post for the construction or display of Mound 17. Stratigraphically, it seems that F292 is later than F318 (see section D400), in spite of an entry by Annette Roe in the site book (11 September 1991) to the contrary. Other explanations for the existence of F292 are of course also possible, but less likely, eg:

- the post F292 is a totally unrelated late feature
- F292 is not a post, but a failed (and rather feeble) attempt at robbing Mound 17 (see sections 3.9.2 and 7196.5).

3.4.1 *Defining and recording patches of ancient soil*

Horizon 1 generally marks the level to which the most recently ploughed soil 1001 also disturbed by contemporary root action and bracken had been removed. What it reveals is a brown soil, referred to in the records as "buried soils", but this is a misnomer, as it could only have been buried in the area under Mounds 17 and 18. "Ancient soil" would be more correct. Its surface was certainly ploughed and, in retrospect, it can be shown to have lain over the whole of Intervention 48. The distribution plots of ceramic, flint and burnt flint in the buried soil contexts are therefore somewhat misleading, as the concentrations refer more to where the buried ancient soil survived machining. The distribution of artefacts picked up just above Horizon 2 (clearing down to subsoil level) in the southern part of Intervention 48 offer a meagre complement in this southern area. Further, the varying densities of artefacts in the buried soil contexts are also a product of different recovery strategies, only the northern part of Intervention 48 having benefited from Level D recovery to the nearest cm. Nevertheless, it is clear that Mound 17 (and to a lesser degree Mound 18) acted as a shield to the erosion of ancient soils and consequently to the artefacts in them. This resulted in a more deeply preserved ancient soil as we move westwards, an attribute already noted by Longworth and Kinnes (1980: 7-9) who also found that artefact densities increased westwards (1980: fig. 4).

The buried soils proved extremely rich in prehistoric material: more details will be found in the discussion of the finds below. Suffice to say here that nearly half the ceramic material found on Intervention 48 was recovered from the buried soils, the other near-half being located in features and less than 10% of the ceramic material occurring in the topsoil, ploughsoil and above Horizon 2. Similar, but slightly less extreme, proportions apply to burnt flint and flint: for burnt flint they are roughly 40% in the buried soil, 45% in features, 15% elsewhere; for flint the proportions are, again approximately, 35% in the buried soil, 40% in features, 25% elsewhere.

The whole prehistoric pottery spectrum, from Middle Neolithic to Iron Age wares, is represented in the buried soils with, as noted above, a smattering of later Roman or post-Roman losses in the anciently ploughed surface of the buried soil.

The buried soils were trowelled down to their interface with the natural sandy subsoil surface, known as Horizon 2. At this stage features cut into the subsoil were clearly visible.

3.5 Definition and recording of features at Horizon 2

A major change in policy was made in 1989 after the completion of the excavation of Int. 41 (Vol.4), which was entirely excavated by hand and whose total feature population had been examined. It had become clear that outside the areas protected by Anglo-Saxon burial mounds, erosion had affected very severely the survival of features cut into the natural subsoil, leaving only the deepest features visible. It therefore became futile to attempt the excavation of all features at Horizon 2 over flat areas: all that would be achieved would be an unrepresentative and unknown sample of the feature population, biased towards the truncated bases of the deepest features. It was therefore decided that selective excavation of negative features at Horizon 2 would be adopted as policy over all flat area excavations (Int. 48, 50, 52, 55), with the objective of

- a) investigating the Anglo-Saxon cemetery and
- b) establishing a sequence of major prehistoric landscape elements.

Three main reasons dictated the choice of what feature to excavate in Int. 48:

1. At any horizon, all features known to be of early-medieval date, or suspected as such, were fully excavated at level D. They were the quarry pits for Mound 5 (F3, F4, F5, F6, F287 (with grave F347-349, 351-352) and F288) which were fully excavated, as were the burials under Mound 18 (F57, F231) and Mound 17 (F318 with associated features F353, F356-360, F319 with horse F355; and scoop F292). Other features had the shape of graves (F24, F93 with posthole F202) but turned out to be either natural features (F24) or treepits (F93). A number of large pits (F29, F90, F321) around Mounds 17 and 18, although superficially similar to quarry pits, proved to be prehistoric pits (see below).
2. A number of features identified at Horizon 1 had to be removed in order to reach the Horizon 2 definition level. The excavation and removal of plough furrows F40, 42, 86, 87, 282, 290 and superficial features F14, 43, 285, 289, 291 fall within this category. The medieval bank F224/F338 was also removed over Intervention 48 and a stretch of the accompanying ditch F59/F188 (with posthole F273) was excavated.
3. At Horizon 2, prehistoric features were *selected* according to their potential for analysing the *prehistoric sequence*. The feature families targeted were:
 - a. *The Iron Age gully*, which turned out to be a palisade slot with postholes, was excavated over its entire western stretch (F56/172 and postholes 167, 233, 240, 206, 269-272, 279) and its course defined elsewhere (F284, 286, 330, 336).
 - b. Postholes belonging to the *Bronze-Age fenced enclosure* in Interventions 41, 50 and 44 were also excavated in Intervention 48 (F34-39, 41, 99).

- c. *The linear boundaries* running W-E across the site were defined and tested. In the case of the northern 'ditches' (F7, 295, 334, 337) it was decided not to excavate more, as so much of it had already been excavated in Intervention 41 and in the Longworth and Kinnes campaigns of the 1960's (1980: 'Ditch 1'). The southern ditch was excavated over a short stretch in the southwestern corner of Intervention 48 and resolved itself into recut gullies and postholes (F198, 274-278). This ditch overlay a natural feature (F280).
- d. *A number of large pits* were fully excavated or half-sectioned in order to recover significant prehistoric finds assemblages and in the hope of elucidating their date and function. One such pit (F116) has a pure Neolithic assemblage, one large pit (F29) appears to belong to a Beaker facies: postholes surrounding this pit (F23, 26-28, 30, 55, 100-115, 232, 258, 264, 265) and a natural feature (F51) were also excavated, as it was thought possible that pit F29 once stood within a structure. The remaining pits (F2, F90, F203, F321) are likely to belong to an Early Bronze Age facies.
- e. Finally, *a number of scoops* (F1, F11, F33, F54, F58, F131, 135, 136, 346) and isolated postholes (F9, 13, 32, 52, 228, 257, 262, 263, 283, 298, 350) were excavated, either in the course of recording another feature or in order to fulfil the needs of trainees on three successive training excavation seasons. These features do not add significantly to the understanding of the prehistoric sequence.

Nearly two-thirds of the features identified on Intervention 48 remain unexcavated, but it can be said with some confidence that their excavation at present would only add very little to the understanding of Anglo-Saxon and prehistoric Sutton Hoo, and they are best left for future campaigns driven by new questions.

3.6 - 3.8 [Unused]

3.9 **Definition and recording of features: Anglo-Saxon features**

In section 3.5, the policy and reasons for the selection of features to be excavated have been set out. For the prehistoric period only major landscape elements were sampled. But for the Anglo-Saxon period all features suspected to be of Anglo-Saxon date were excavated. These features can be grouped into 4 categories:

1. Mound 18 (see sections 3.9.1 and 7.2)
2. Mound 17 (see sections 3.9.2 and 7.1)
3. Anglo-Saxon burials encountered by Longworth and Kinnes in 1966-71 (Int. 11) (see section 7.3)
4. A series of quarry pits, one with an inhumation, to the west of Mound 5 (see section 7.4).

Int 48 at Sutton Hoo brings to light a great variety of Anglo-Saxon burial rites. While some rites are variations on known themes (the cremation in bronze bowl with comb under Mound 18 resembles those of Mounds 5, 6 and 7; sacrificial burials are well known in the quarry pits of Mound 5) others are new: a rich inhumation with accompanying horse inhumation burial under Mound 17 (the other Sutton Hoo horses are cremated in Mounds 3 and 4), a 'skull pit' (difficult to interpret as a sacrifice in a quarry pit, as the pit description does not fit that of a quarry and there are grave goods, unknown amongst all other sacrificial burials) and two cremations in small holes, one urned one unurned. Mound constructions vary too: it is very likely that Mounds 17 and 18 were built up by scraping soil from the surface. Certainly, no quarry ditches existed and it is highly doubtful that any of the pits near these mounds were quarry pits: of the likely candidates, pits F90 and F29 are definitely prehistoric, and pit F321 is ambiguous. This only leaves the 'skull pit', but Longworth and Kinnes' (1980: 11) description of the pit does not fit that of a quarry pit at all. Since they are usually very careful in their descriptions, the familiar look of

a quarry pit would have emerged from their report if the pit had been a quarry.

Short summaries of Mounds 18 and 17 follow, but the reader is referred to sections 7.1 and 7.2 of this volume for a detailed report upon the excavation of these mounds.

3.9.1 *Mound 18*

Mound 18 barely survived as a very slight ridge on the surface of Int. 48 and all that remained was a slight thickening of the buried soil (once protected by a mound) recorded as Context 1057 and subsequently assigned to Feature F57. In its presumed centre lay an oblong feature (F57/F231) containing minuscule fragments of cremated human bone, a bronze bowl and 2 tiny pieces of a composite bone comb. Mound 18 was not robbed, but had suffered very badly from the plough which scoured the feature and scattered its contents; mole runs did not help matters either. This burial is burial no. 11 of Carver's List of Anglo-Saxon Burials at Sutton Hoo (1992: 369). It was recorded by Angela Evans in Summer 1989 (see Level II archive records Y6/Y7 of F57/F231 kept in separate folder) who has also compiled a list of the bronze bowl fragments and bone comb fragments held in the British Museum. Note that 17 fragments of bronze bowl were recovered altogether (15 from F57, 1 from F231 (find no. 3216) and one from the disturbed buried soil near the cremation (Context 1056, Find no. 771). 2 very small pieces of bone comb (1 from F57, Find no. 1221 and 1 from F231, Find no. 3214) were recovered, as were some 7 instances of vitrified sand, thought to be the result of extreme heat from a pyre (see also finds report, below).

3.9.2 *Mound 17* Description of the Investigation [see section 7.1.5 for the analytical account]

Mound 17 did not look more impressive than Mound 18 on the surface, but greater care was taken in approaching this Mound in 1991, in case it proved as elusive as the ploughed-out Mound 18 (which was nearly missed altogether in excavation). In the event this turned out not to be case, revealing instead an intact Anglo-Saxon inhumation complex, consisting of a deep grave oriented West-East (F318), containing a wooden tub (F353), an oak coffin (F356), a bridle complex (F358) at the West end and remains of a bag or "haversack" (F366) at the North-East end of the coffin. A post-hole (F357) was also cut into the side and base of the grave cut. This burial complex is burial no. 9 of Carver's list of Anglo-Saxon burials at Sutton Hoo (1992: 368). The person inhumed in the coffin (body F359) was a young male, under 25 years of age (F Lee, pers comm), referred to as a "prince". 687 finds were made in this complex (see Table 5), including 82 metal objects and many finds of organic materials. This section will not deal in any great detail with the "prince's grave", as it is the subject of section 7.1 of this volume and has been presented in a number of publications already (Carver 1992a, 1992b, 1993).

Next to the grave, 3m further north and parallel to it was a further deep grave (F319), being Burial 10 of Carver's list of Anglo-Saxon graves at Sutton Hoo (1992: 369). It contained the articulated inhumation of a horse (F355), preserved in good condition: its head lay at the west end, inclined towards the "prince" and the limbs were flexed in a 'natural' position. This horse is robust, 1.44m high at the shoulder, mature but not old (perhaps c 5 years old) and shows no trauma [T P O'Connor, Research Archive report Z.1.17 (4) and Z.2.2 (21)]. Good parallels can be found amongst high status horse burials in the Netherlands at the same period. Further information will be found in section 7.1.6 and 7.1.6.2 of this report (Martin Carver).

Finally, a posthole or scoop (F292) was placed in between the graves F318 and F319. It is proposed that this feature was a rather feeble attempt at robbing the Mound, but could possibly have been a marker post in the centre of Mound 17 (see section 3.4.1 and 7196.5).

3.9.2.1 Annette Roe's and Martin Carver's Excavation Journal for Mound 17, 16 Sep to 7 Nov 1991

Annette Roe's Diary 16 Sep - 16 Nov 1991

[p1]
F318

First showed clearly definition spit C1508, cutting the buried soil. It appeared as a large dark oval with a band of yellow sand surrounding it.

At definition spit C1512 the pit showed clearly with a dark fill C1509 and a yellow surround C1516. At this level I started to excavate taking out C1509 on the western side of the Mound 17 section which ran N/S along the 079.60 Easting. A hachure plan was drawn and then it was decided to take out C1516 down as far as Horizon 2. In fact I went some 10cm lower than Horizon 2 since the pit cut the large BA ditch and the natural was not clear in the edges.

The west facing section was then drawn and the eastern half treated the same leaving a 25cm baulk. C1509 appeared to be dishing into the top of the feature, the real backfill being C1516, the yellow mottled sand with wisps and lumps of silty turf - like material (one 'turf' C1537 was planned and recorded). Towards the top of 1516 was a dished horizon of black mineralisation which is visible in section.

When the whole area of Mound 17 was drawn to Horizon 2, the 25cm baulk was removed and the feature was ready for excavation.

It was decided to trowel out the backfill in 10cm spits quickly, sieving everything. All the finds appear to be prehistoric since the feature cuts the BA ditch F334/F337/F322, and the IA gully F332, F333?, and F336. After slightly less than 1cm depth a silty patch with a dark ring around it was defined in the NW corner.

At this point the idea that F318 was a robber trench became less likely for the following reasons:-

[p2]

- a) the edges were practically vertical, very neat
- b) there was no means of access such as steps cut or a ramp to take away soil
- c) most other robbings stopped shortly after reaching the natural
- d) the dark circular stain seemed to be undisturbed.

Monday 16th Sept

This level was cleared and record shots taken of the circular stain C1582. Terrible weather prevented any finer work

Tuesday 17th Sept

I drew the rest of C1516 in the section in order to take out the other eastern part and record the new level in plan. Excavated the other part of C1516 and recorded it. Left 10cm in as protection. Everyone started thinking about it being an intact burial chamber and suggesting what the circular stain might be.

Wednesday 18th Sept

I excavated the last 10cm of the eastern end and cleaned the layer for a Nigel photograph. The tower was placed at the western end of the feature.

There seemed to be hundreds of people milling around all day. Visit from the British Museum staff etc. All I achieved was one photograph and various arrangements for covers, cushions, planks, sandbags etc.

Madeleine set me a new planning station at the eastern end of the feature.

The layer on which the organic staining first appears was called C1572 and will be recorded in 'stages'.

Today's [p3] photograph was labelled C1572 STAGE 1, i.e. the first stage where it is possible to see shadows of darker soil which create shapes.

The clearest stain is this circular stain in the NW corner [polaroid phot. here] - the northern side of which (1) is black and 'organic' in feel although the rest of the circle is suggested by a pale brown shadow, 2. Inside the circle feels finer and more silty with one patch, 3, which is stained a rusty iron colour. This photo also shows the western end of a long thin rectangular stain

tentatively interpreted as a coffin lid. This is c.60cm wide at the western end - getting wider towards the east.

The southern edge, although clearer, seems to have several stripes and the central wavy lines showing, 4. MOHC suggests that these may be the grain of the wood of the coffin lid. Another circular shadow, 5, invisible outside the 'coffin' to the south.

[p4] At the north-eastern corner of the so-called coffin stain there is another circular stain, 7, and against the northern edge of the cut there is a stain which feels much more solid and appears darker than the rest but whose shape is not definable so far (6). It could be concretions in the natural. It was decided to do a colour plan at this stage.

Thursday 19th Sept

I planned the various stains that showed at this stage using the new planning station. I decided on selective planning i.e. only the more recognisable shapes instead of a total colour plan of the layer. During the morning Peter Berry constructed an amazing cradle which allows me to work close to the ground without touching anything.

Friday 20th Sept

Lost a lot of time yesterday setting up the cradle, tower and covers. Finished off the plan in the morning and surveyed in the metal detector readings (5) and the position of soil samples for stage one (Δ 7517 - 7530). The sampling at this stage was a series along the centre of the coffin-like stain, 2 inside the oval patches and 2 inside the circular wooden object C1582. In the afternoon I finished taking down the next spit.

[p5]

Monday 23rd Sept

Finished taking off the next spit and had it ready to photograph early afternoon. Nigel was busy all afternoon and couldn't take it. For record shots I took 4 polaroids and some shots from the ground surface with the site camera and a tripod since the light was terrible.

At 5.30 Nigel was still busy so Martin and I borrowed his tripod and took some photos from the tower. It was extremely windy and the light was poor.

Tuesday 24th Sept

Managed to get some Nigel photographs but wet weather hampered the procedure.

Put in the pins and surveyed for the Stage 2 plan. At this stage the coffin stain looks wider and three fairly large iron clasps start to show towards the ends of the long sides.

The so-called bucket in the NW corner shows up very well on the northern side as a fairly solid black sandy stain which holds together well when cleaned - inside there is still a slightly redder stain which was sampled as well as the rest of the bucket fill.

The western end of the coffin is still rather unclear but a piece of wood or turf shows up, Δ 7564.

[p6] The southern edge of the coffin at this stage shows up as a pale yellow regular band (1578?), the northern edge is still unclear. Inside the coffin the wavy lines seen at Stage 1 are still visible but seem to spill out over the northern edge. Could these be straps for lowering the coffin, then thrown in on top?

There is also a long darker streak down the middle of the coffin.

To the north of the coffin towards the east end is a sub-circular patch of very soft clean silty sand such as that formed by puddling. This was sampled.

Wednesday 25th Sept

Did the colour plan. Most of the day was lost because of rain, so caught up with other features in the office.

Thursday 26th Sept

Surveyed sample points and took samples for Stage 2. In the afternoon I started taking down another spit.
[p7]

Friday 27th Sept

I finished taking off the next spit by lunchtime when Nigel took the Stage 3 photographs from the tower. At this stage the bucket C1582 F353 showed up very well particularly on the northern side and I took a record shot. Nigel took record shots of the iron coffin clasps from close-up to see the way they curved. There was just time to put in the pins for surveying.

Monday 30th Sept

I had a really bad cold- managed to survey in all the points in the freezing cold and only completed half the colour plan.

Tuesday 1st Oct [AR wrote Nov in error]

I finished the colour plan of Stage 3 and did the sampling. All the iron clasps (Δ 7560, 7561, 7562, 7563) showed at this stage the ones at the west end are opposite each other, the ones at the east end are not. This time the coffin stain showed as a black sandy line on the southern edge, the eastern edge is clear but yellow and brown, and the northern and western edges are still unclear. The southern part of the coffin fill is yellowish brown, the northern part brown with darker curving lines.

To the north of the coffin the fill is, as before, very soft with more stoned and many yellow and brown stripes which seem to always follow the same pattern but are not comprehensible.

Several small patches of organic material are visible (Δ 7564, 7565) and have been sampled - these are probably turf in the backfill.

There are several shapes repeated throughout the stages but which remain obscure.

[p8]

Wednesday 2nd Oct

Excavated the next spit to arrive at Stage 4. Nigel took the photographs although it was too dark for polaroids. Chaos on the other parts of the site with everyone trying to finish before the official end of excavation on Fri 4th.

There was much excitement today with the discovery of a bronze bowl (Δ 8030) to the north of the coffin towards the eastern end. Obviously I didn't have time to plan and it was decided to continue in spits.

With the bowl showing and so many tourists around it was decided that someone should camp near the grave for security.

Thursday 3rd Oct, Fri 4th Oct

Surveyed and drew the colour plan of Stage 4. Reached the bottom? of the tub F353 - the base apart from about 2-3cm on the northern side was not definable -it may have tipped slightly towards the north. Decided to leave the part that stayed up against the grave edge for the final photograph and sample the western part in the hopes of identifying the wood (Δ 8024). The northern edge in the western half outside the coffin continues to be soft and very stony whereas in the middle along the N. edge there are still a series of linear stains still incomprehensible. The bronze bowl is placed towards the NE corner of the grave and tips towards the SW. The fill of the bowl is slightly stained by the bronze but does not look different to the rest of C1572.

All 4 clasps and the coffin edge are now visible although the edge seems to vary somewhat from stage to stage, suggesting that it should be a tree trunk which is irregular in shape rather than a plank coffin which should have vertical walls. An extra nail Δ 8022 was found associated with the iron clasp Δ 7561. Near the iron there survive small pieces of wood.

Inside the coffin there is an oval stain which has become [p9] progressively larger since Stage 1, as well as various shapes including a circular stain on the eastern end of the southern edge which was also seen at the previous stage.

Outside the coffin on the southern side there appears to be natural sand. I gave it a number C1576 and drew its hachure plan at this stage because I am sure it is redeposited natural, part of the backfill. I will test it out on the next spit.

Mon 7th Oct

Started off by sampling the tub and lifting the iron coffin clasp Δ7562 with Linda, and did the general sampling of Stage 4. Started to excavate the next spit.

Tues 8th Oct

Finished the spit - took the Stage 5 photographs.

At the western end underneath F353 was a darker stain, probably still discolouring from the tub. Outside the coffin stain there is a small circular patch of fine greyish yellow silt sand, several black probably animal burrows, a possible faint organic stain towards the south and the same soft stony area to the north. The coffin stain is clear but is still not black at the west end.

[p10]

In the middle along the northern side is a sub circular patch of soft brown fill - possibly over some vessel?

On the southern side the backfill continues to look like natural but cannot be (C1576), because it looks to be up against the coffin rather than cut by it. Along the northern run of the coffin the black stain bows in probably where the coffin wall collapsed. There is however still a continuous stain along the proper coffin line. The fill here is more like the outer fill of F318 than the brown fill of the coffin - i.e. the coffin collapses allowing the outer fill to enter.

The bronze bowl is now showing better tipping towards the SW. Its fill looks the same as the outer fill 1572 but has all been sampled (Δ8067). Some possible organic staining shows near the bowl.

The fill inside the coffin at the eastern end now looks fairly uniform and brown and could be soil that has filtered into the coffin when it was still intact, as opposed to previous stages where it was mixed up like the general backfill of F318.

[p11]

Wed 9th Oct

Did colour plan of Stage 5

Thurs 10th, Fri 11th Oct

Off sick - no work on site.

Mon. 14th Oct

Did the sampling for Stage 5 in the morning and started excavating in the afternoon. At this stage I decided to check all the edges especially C1576 the clean sand on the southern side. What I had previously considered natural turned out not to be so - it must be the side that was backfilled first with clean sand. Towards the middle along this southern edge there are little layers of concreted sand but it was seen in Mound 14's burial chamber that this process could occur after the Anglo-Saxon burials, i.e. Iron panning/mineralisation in the backfill.

Tues. 15th Oct/Wednesday 16th Oct

Excavating was immediately slowed down on this stage when, starting in the northwest corner, an axe-shaped bronze fitting/strap end came out of the sieve (Δ8069) and several other pieces of iron were visible as well as a tiny bronze pin in ?leather (Δ8107) and a complicated composite

object of iron, wood and gilt bronze (Δ8071) which was crushed against the corner of the coffin. These finds were placed around a sub-square stain in the soil, and it was decided to leave the area slightly higher to leave the finds in place for the photograph.

In the middle of the west end right on the edge of the grave is a square post-hole F357 C1586, possibly some structure within the grave although there is only one.

Along the northern edge outside the coffin, the bronze bowl had to be lifted during this stage, and underneath it was a concentration of fibrous material preserved by its contact [p12] with the bronze which was initially identified as a textile. During the lifting of this material (Δ8068), 2 rib bones were discovered (Δ8072) one of which curled up and pressed into the side of the grave behind the bowl, the other curled out from under the bowl and had in fact been seen earlier. Unfortunately the bone had become soft and pliable and I had snipped the end off thinking it was a root. Other bone remains in the block of material to be analysed (Δ8068) suggest that the organic material stuck to the bone may include meat especially as it didn't look very much like textile under the microscope.

Immediately to the south of these ribs, organic material and the bowl is a greyish stain in the sand which looked almost like something spilled from the bowl (sampled Δ8080) but could be associated with the meat.

To the east of these there are still vague organic stripes as seen in Stage 5 but they are still incomprehensible.

In the middle of the north side of the coffin wall can be seen the rim and handle of bucket made of wood with iron bands and handle (c.21cm in diameter - Δ8070). The southern part of the bucket rim mingles with the coffin stain as if the coffin had expanded outwards or sloped up over it. The same applies to the rivet (8090) of a bone comb (Δ8252) found c30cm to the west of the bucket.

The coffin stain at this stage does not seem to have changed much in size but the split in its northern rim is much larger with the disturbed backfill C1572 spilling into it. There is also a split or division in the southern run of the coffin towards the western end, inside which is an object made of wood and iron rounded along the top thought to be a hinge (Δ8259) or fastener. (turned out to be a dagger in a wooden sheath)

The same backfill pattern continues around the coffin, ie., redeposited natural on the south side and dirty brown and orange sieved fill on the north side.

The coffin, apart [p13] from where it is split - is filled with clean sand with very few stones.

Stage 7

The first move before excavation the next spit to Stage 7 was to lift the finds which would not resist - Δ8071, 8107, 8108, 8090 and the dagger Δ8259

The first part to be excavated was the most difficult - the NW corner where so many finds started to show that a feature number was allocated to the whole complex. This included lumps of iron, poss. wood, strips of leather, several bronze strap ends/fittings including one (Δ8111) with a gilt bronze plaque with animal ornament. It was clear that these should be lifted in a block in the hopes of understanding them. At this stage ideas on interpretation have ranged from a delicate and decorated chair on which the wooden tub F353 was placed, to bridle/saddle fittings for the horse in F319, or a shield collapsed as the wood rotted.

This corner again was left slightly higher than the rest of the spit - to the south of it was still C1572 with lots of turf-like patches. On its eastern edge it is difficult to see its relationship with the end of the coffin as the coffin seems to have a greyish ledge at its western end. This may overlap the finds complex F358.

[p14]

On the southern side the same redeposited natural fill C1576 continues downwards with no sign of any objects, nor even slight organic stains.

On the northern side, the backfill is the same mixed C1572 but there are now more grave goods showing. The bone comb (whose rivet came up at Stage 6, Δ8090) now shows up further away from the coffin but is sloping down almost vertically. This should mean that it's sitting in something but there is no sign of any vessel. It has now been allocated number Δ8252.

The bucket Δ8070 now shows an iron stain of another ring in the north of its rim. This could mean that it's inside another iron vessel or that it has collapsed southwards. Immediately to the east of this is the rim of a bronze cauldron, Δ8253, with triangular lugs with an iron handle which seems to be clad with wood. On the northern edge, the rim seems to have some black organic

material stuck to it, possibly leather. The bronze is 1 mm thick and seems rather fragile. Inside the cauldron is a ceramic pot Δ8250 c11 cm across

Immediately to the east of the cauldron in the area where the bronze bowl Δ8030 and the two ribs Δ8072 were found at Stage 6, the pale greyish stain Δ8098 continues although now somewhat larger. It is surrounded by a brown organic looking stain (Δ8099) and contains a further 3 rib bones (Δ8251) which should be associated with Δ8072 and constitute a food offering. However the different levels make it necessary that these items, perhaps including the bowl, were contained in something. So far the staining is difficult to interpret.

At the eastern end of the coffin is a dark organic sub-oval mark which looks as though it may turn into some sort of vessel.

The inside of the coffin at this stage is looking very interesting: the edges are now for the most part hard and black and it [p15] should be possible to excavate the next spit leaving them standing although the NE corner is a bit messy. The western end has a greyish ledge (mentioned above) with several holes in it - perhaps it was thinner wood than the main coffin structure. There is a raised lump along the northern edge which looks as though there is something underneath it. On the southern edge there is a broad black stain - may be where the coffin starts to bottom out and a small (10x15cm) patch of well-preserved wood, this may be preserved because it is over something iron as there is a small iron stain showing under its northern edge (Δ8262).

Just to the north of this black stain and preserved wood is a piece of bone poking through, hopefully the skeleton at last. I have hope of finding preserved bone since the horse in F319 the parallel grave was almost entirely conserved. This may be different though due to the presence of the wooden coffin.

The coffin backfill is now C1572 burst in through the break in the centre of the northern edge (see also Stages 5+6), the eastern end is fine brown sand presumably filtered through the rotting wood gradually, and the western end has a large patch of greyish brown clean silty sand.

Stage 8

We initially thought that this stage could be the best stage for the tableau photo with grave goods showing and the coffin excavated although it would clearly not be the last due to the fact that we were only at rim height on the pot and cauldron.

I started at the west end leaving F358 untouched but cutting down around it to make sure it was isolated before the conservators cut underneath it. To the south of it the mixed fill with lots of turf continued and seems to continue underneath F358.

To the northeast of F358 the natural started to slope in but [p16] next to the gilt-bronze plaque at the NW corner of the coffin an iron rod was uncovered, the head of a spear Δ8261 appeared with its shaft running alongside the coffin eastwards. Some wood was seen attached to the spear shaft c30cm from its tip, this spear clearly continues beneath the level of this spit as an iron stain is visible as well as a linear brown band (although this is on the wrong alignment to be the shaft of the spear). The comb Δ8252 is still sticking up vertically into the backfill and it seems likely in the absence of any contained that it had been placed on top of the coffin and had slipped off landing end down in the sand leaning against the coffin wall.

The iron bucket (Δ8070) now shows staining of a third ring and appears to be slightly crushed on the southern side, as does the cauldron (Δ8253). When first identified at Stage 6 the rim of the bucket seemed to mingle with the coffin stain and it seemed as though the coffin had probably bulged as it rotted. It is also possible that the bent rim was caused by the coffin being inserted after the bucket. The bucket does anyway lean towards the south, and now appears to be one bucket with 3 rings and a handle.

The ribs Δ8251 were left on a pedestal of sand for the photograph but also to see their relationship to any stains. There is still a darker patch but it becomes less convincing and the greyish sand that was around the bone disappears.

In the NE corner of the coffin the natural, very mixed and dirty with loose pale crag and black mineralized stones slopes gently in. The southern side is now almost completely natural, rather confusing due to the mixed nature of it but most of 1576 has gone and the very edge is composed of hard red/brown bands of concreted sand. The natural is made up of bands of concreted sand, crag and dark sand with gravel blackened by mineralisation, and due [p17] to the fact that the grave cuts these layers obliquely it is easy to imagine organic (dark) lines where in fact it is the dark natural.

This situation is particularly confusing in the southwest and northeastern corners.

The coffin F356 is excavated leaving the edges, its structure, standing. The coffin almost black for the most part, hard and almost sticky with slight ridges running along its length E-W. It is only 45cm wide at the western end, 68cm at its widest towards the east. The hollowed-out part is 2.40m long and the bottom has a few holes where the yellow sand C1578 shows through - particularly at the eastern end where it is much worse preserved. The sides curve in fairly gently and the base is fairly flat.

On the northern edge where there is a lump, seen also at Stage 7, a tiny iron stud Δ8277 shows through and there is rust coloured staining around it. There is something iron underneath.

The skeleton F359 is c1.70m from head to heel, fairly well preserved (excellent for Sutton Hoo!). It is lying with its head to the west (the first western 30cm of coffin is empty) looking northwards and the body, although seemingly well laid out with its hands over the pelvis, distorted to the south. This is most likely due to the rolling of the coffin when it was placed in the grave.

Along the southern edge where in Stage 7 there was a broad dark stain lies an iron sword in a wooden scabbard (Δ8264), the pointed end dipping slightly as if it were broken. The pommel at the western end is made of iron with what looks like wood or perhaps bone or horn. The top of the scabbard is studded together with a bronze pin (similar to Δ8107 F358). On top of the sword is a piece of preserved wood Δ8262, first [p18] seen at Stage 7 which appears to be some object although unidentifiable. Peaking [sic] out from underneath the sword is a small bronze decorated object shaped like a square cylinder which probably served to attach it to a belt (Δ8263).

Beyond the tip of the sword is another iron stain, possible showing through from some object under the coffin since no metal is visible at this stage.

The skeleton, rolled over to the southern edge of the coffin, has its right arm, some of the pelvis and the top of the right femur hidden under the sword. The cranium has most of the uppermost part missing but the teeth seem to be in good condition, the ribs are missing, as are the shoulder blades but parts of the vertebral column are intact although rather spongy, almost body stain in the middle. The pelvis and femurs survive as do the other long bones except at the joints. The feet are almost all body stain and have points to the reminiscent of soft pointed shoes. Only the ?heel bones survive.

Other grave goods within the coffin are a tiny bronze decorated ring, Δ8060, with the coffin wood preserved where it touched, and a brooch on the right shoulder which appears as a woody (bone?) D shape with whitish paste? and a hard lump like glass slag! However at the eastern end there is a little bronze showing and a flake of garnet and a flake of mellifera come from this object Δ8257. It is possible that there is a brooch face down and that the D shaped part is in fact part of F359's shoulder blade. There are no other objects, not even a buckle although other things may have slid under the sword.

The ends of the coffin are still strange, a greyish flat ledge at the western end and a curved brown organic stain at the other. One or both of these (the eastern one is more convincing) may have been ends originally inserted to close the ends of the tree trunk coffin.

[p19]

Stage 9

Essentially the same as Stage 8 but it was decided that Stage 9 should be the coffin with all visible grave goods sitting on the surrounding natural and that Stage 10 should be objects underneath the coffin once the coffin had been dissected.

The only real differences to Stage 8 here is that the iron part of Δ8111 F358 is now larger, (examination of Δ8071 previously lifted makes it most likely that this mass of fitting came from horse fittings). The spear continues as iron for 50cm then as wood stain until it disappears beneath the coffin - some brown soil is also visible alongside it; the 3rd ring of the bucket is exposed and to the east of the cauldron there is a dark almost black concentration on the natural bottom.

This concentration of small black patches coincides with the position of the staining round the meat and bowl higher up and may possibly be the stain left from a leather bag? which could have contained all the food offerings. As was previously mentioned the natural subsoil does contain blackish lenses but these are slightly more convincing as organic stains. See MOHC's notes on this as he excavated this stage.

The area south of F358 also seemed to have organic staining and a thin black leather line but these stains are so ephemeral that it is difficult to interpret them. These will be sampled as Δ8265.

NB: Towards the bottom of the grave particularly at the eastern end there seems to be a brownish very thin lining just before the natural which could give an impression of the grave perhaps being lined with a cloth before the deposition of the grave goods and coffin.

Martin Carver's Diary

[p20]

Sunday 20 Oct 91

Dear Annette,

I have to go up to York today (Monday) to take the luggage for Mad, Lynne and the children before Wednesday and it had better be Monday rather than Tuesday, since I have 2 meetings then.

Unfortunately we are slightly out of sync. Monday was meant to be a planning day rather than a digging day. I am anxious about the next stage, since I don't understand what we have in the NW corner. Neither does Catherine [Hills] who saw the various fittings. Much depends on the stains which link the fittings; but the important point is that there should be nothing missing of the original artifacts. And there plainly is. Presumably the missing links would be represented by stains; and presumably the remaining fittings and part-fittings are further down. One might guess that the object in the corner is a crushed box, in which fittings were broken on collapse. The other halves should therefore be further down with the remaining fittings.

This complex organic-linked object may not be alone; ie we may have others in the same place or alongside the coffin.

The principal grave-goods and the body should show at the next stage.

All of which means that this next stage will be crucial and must be taken slowly.

Can you limit the stage to 2cms, and remove only backfill. Work round objects and try to preserve stains - even if it means leaving them high (except the coffin - but include the coffin if it is bound up with a contiguous find or stain). Leave all objects in situ - I would very much like to see them before any lifting is attempted.

The horse can go ahead with its photo, weather permitting, but Steve [Timms] is ill in any case. Use Jenny [Glazebrook] as assistant for you.

Good luck. If you need me ring Department.

[p22]

21 Oct 91

Some anxiety about the western complex, in that some of the fittings are incomplete, eg iron rod with three tin (mother of pearl) rhomboids is broken off. How has this happened? Although one bronze plate [silver axe-shaped pendant] was found in sieving, it seems unlikely that others have gone astray in the digging. We therefore need to understand the collapse - some cavity into which fractured pieces have fallen.

[p23]

26 Oct 91

1. Backfill is composed of (a) natural strata (b) fill of the EBA boundary ditch
2. Backfilling reflects the geography of the site; ie natural strata backfills south side; ditch strata backfills N side.

-Natural strata includes: layered sand (the majority); pan (isolated lumps); grey gravel/clay aggregates in lenses.

-Ditch strata includes: fine brown earth with coarse sand/gravel; small abraded lumps of chalk; dark metallic pan.

3. Fill of coffin is finely divided soil or sand; ie entered through rotted wood.

4. Coffin is cylindrical in section, in two halves bound by hinges and ?locks. The division must be near the sword since some broken scab rests over it.

5. Only structural weakness discernable [in the coffin] was on the N side, where it has bowed inwards.

6. It is assumed that the coffin was placed in the grave first [look for evidence of displacement on the natural floor, to adjust position]. Then grave goods added: in what order? Stratigraphy seems to be limited to the finds themselves: ie pottery vessel after lugged cauldron; bronze bowl after ribs. [p23b] In other words all backfilling is later than all finds except possibly:

(1) bronze bowl - but this was in contact with meat. Could it have been balanced?

(2) Wooden tub - could it have balanced on the "shield" complex?

7. Within coffin. Body has rolled to S side, so that it lies with its back to the sword. Could this explain the absence of buckle? Could also be increased evidence for coffin in Mound 1 (body rolled over in it confusing shoulder clasps and buckle).

8. Relationship of finds and coffin. "Shield" complex is pressed hard against W edge of coffin ultimately into rotted wood. Coffin oversailed cauldron. These effects post-depositional, ie coffin bulges with weight of earth - but doesn't split. However, post-depositional bulging is not sufficient to explain curvature of clasps.

[p24]

9. Drawing of skeleton/coffin should feature in Stage 10, although done at Stage 9 [ie drawn on new piece of film so that Stage 10 has complete plan]

[p28]

2-3 November 1991

Excavation of the Coffin

General Objectives:

1. To secure a photo of F318 (prince's grave) and F319 (horse)
2. To quadrant the coffin and achieve a profile through it
3. To check for finds beneath the coffin

Weather and conditions:

Very squally on Friday 1 Nov and Sat 2nd and Sunday 3rd Winds up to 100 mph on night of 2/3rd, accompanied by heavy rain. Ae objects deteriorating quite fast in spite of application of paraloid. Expeditious lifting of objects and their transport to Museum therefore important. These two factors exert high pressure on excavation programme which seeks to confirm/understand stratigraphic relationships before cutting away for lifting.

Recording: Stage 9 is defined as all objects visible beside coffin

Stage 10 is defined as all objects visible beneath coffin

Quadrants were laid out to avoid coffin contents as far as possible. [p28b] Photographs taken at intervals while digging; generally during and after each quadrant. Section commenced 3 Nov. Datum at 31.101m AOD. Stage 10 plan still required.

RESULTS

(1) North:

The shield boss lay stud uppermost, the stud having penetrated the wood [of the coffin]; it was just visible at Stage 9. The shoulders of the boss had caused a bulge in the softening wood of the coffin. There is thus no doubt that the coffin was lowered on top of the shield which lay flat on the white

sand. Fe objects to W and E made a line NNE-WSW and are probably part of the shield. Under the coffin wood and above the natural was a fine yellow buff sand (of the type surrounding the whole coffin, top and bottom). But connecting the shield-objects and surrounding them was a finer more sticky brown earth which probably indicated the wood/leather of the shield board. It survives most visibly in the vicinity of the iron. Further to the NE, and under-sailing the bucket, a patch of wood, very thin and very decayed. The grain is aligned approximately E-W. The natural here is hard orange panned sand.
[p29]

(2) North-east

The bucket and the cauldron (especially the former) was surrounded by a thick (c15cm) [jacket] of very hard crusty sand which was cut back to reveal the wood patch. Assuming this belongs to the shield, the shield was beneath the bucket.. The iron handle of the cauldron was damaged during this operation (jersey caught on it). The natural in the NE quadrant is extremely difficult owing to the presence of an underground stream or melt-water channel consisting of small black stones and coarse sand in a sickly yellow-white sand matrix. [In appearance] it resembled sandwich spread or fresh vomit. This natural deposit ran NE-SW and overlay fresh white/yellow-white sand, panned in places, which formed the natural deposit predominating in the centre. It had been cut by the construction of the tomb, leaving lenses which pushed out to NE and SW. There was therefore some doubt, on this variegated natural, that any object stances were being observed.

Haversack: However, the presence of brown earth with a clay component, variously square or sub-square in plan was noted persistently to the E of the cauldron. [p29b] It was beneath the bronze bowl and the ribs and was present on the surface of the assumed natural. It was also observed at the N end of the easterly N-S section where it rose in a curve beneath the coffin lip. At this point the width/diameter of the "bag" was 320mm (32cm). The rib whose impression was still visible in section was 23cm higher than the base of the "bag", so the bag is at least this high. We should therefore have encountered a tubular bag (leather? cloth?) placed against the tomb wall adjacent to the cauldron, before the coffin was lowered into position. It contained a bronze bowl and a side of meat and an area 32x32x23 below these should also have contained food. The presence of fine sand above the bronze bowl and within it also suggests a cavity remained (or was formed) above the bowl but within the bag. This sand was first noted a Stage 2 = 31.32m AOD. The base is at c.31.101m - 0.25m = 30.751m. The bag is therefore 32x32x(31.32-30.751 = 57 cm high) - a tubular haversack.

[p30]

(3) SE

The natural in this quadrant was heavily stained and panned, which again made identification of organic object-stances a bit unreliable. The coffin was exceedingly thin and missing at the base to the E. The E end was hard crusty sand with a lack skin. The "flap" assumed to be from the collapsed end was a similar texture to the true area of the coffin. Identification as the end wall of the coffin seems reasonable. As everywhere, the coffin had made its own depression in the natural through the weight of itself, the hardness of the wood, and the weight of earth on top. The usual fine yellow-buff sand which surrounded the coffin elsewhere was v/ sparsely represented in the SE quadrant. Beneath the line of the lip of the coffin wall, were a series of small brown patches, very ephemeral. Where these overlay sandy clay, they were brown, the two which overlay [p30b] white sand (the more westerly) were thin envelopes of black sand pan - suggesting iron studs along the base.

(4) S

The natural here was panned sand with staining and anomalous patches and strips of stony red sand and black grit. Some of these showed shape, but none were convincing as anything other than natural. The black grit recalled wood, but if that is what it represented we must be dealing either Pleistocene wood or with branches placed in a disordered way beneath the coffin. Some staining appeared momentarily to follow the coffin line; on the whole I would say all these anomalies were

fortuitous or natural.

(5) SW

The natural here is “sickly grit” washing out beneath hard panned sand. The coffin has caused a marked depression and lies on more panned sand (at a lower level, beneath the sickly grit). The ‘true coffin’ ends as per plan and the “burst flap” to the W is a similar thickness but paler [colour]. It lies on the brown earth of the W heap.

[p31]

The W heap was subjected to more close definition. It revealed a very thin wood line to the SW. The wood line is convincing and should represent an object placed on the natural. Into a cavity above it brown sand has percolated and run out. Above this hypothetical cavity, were placed the objects (now more probably belonging to a harness) of the western heap.

A bad squall stopped work at 3.30[pm] and the covers were replaced at that time since high winds were expected. Dark arrives at 4.30 these days and it is difficult to see before 7.30 [am]. We are therefore racing against the clock. Work on F318 since 2 Nov is my responsibility and undertaken alone, including the recording unfortunately. Annette Roe, whose excavation has been almost all of it, and completely brilliant, went on 3 Nov.

[p25]

4 November 1991

AM. Conditions fair, light breeze and reasonably bright. Completed the quadrant sections, with the following observations:

- The [base of the] coffin as excavated is generally 1cm [thick], but 3cm thick on the turns and 2cm thick on the vertical walls. Since the base thickness depends on the amount of excavation, and since the bones are generally perched up, the true thickness is likely to have been 2cm in both walls and base.
- The coffin lay nearly level; the E end was 1cm higher than the W end. The N side was lower than the S side.
- The coffin is jacketed by a layer of buff sand, under the base, 4cm thick at the W end, 2cm thick at the E section, thinning to nothing at the E end. This layer, also recorded outside the walls, and above the coffin, may represent the outer wood which has rotted. In this case the coffin wall was [originally] thicker at the W end than the E. Or, it represents bark which has disappeared and left a cavity, in which case the bark was mainly in the centre and W. Or it represents the space left beneath the coffin, which was propped up on natural at both ends with a cavity in the middle. The W end should, [p25b] on this analysis, have been in contact with the panned material. It wasn't - the buff sand continued to the W where it blended with the grey sand of the F358 finds complex. Or the coffin was supported by stones in between which the buff sand infiltrated. Not really any clear sign that this was so. The best option remains that of the buff sand [being] a cavity left by decayed wood, with the lesser depth of sand and wood at the E end being a very much faster decay rate.

-The brown sand ‘carpet’. This layer generally microscopically thin, turned up here and there beneath the coffin sampled as ▲8290, 8294, 8296. It is a fine slightly silty sand sometimes loamy, very homogenous, but occasionally has pebbles or grit (?pushed up from below). This layer was also reported by AR verbally as occurring spasmodically on natural outside the coffin and climbing the walls of the tomb cut. She suggests it might have been a cloth. An alternative to this (excellent) idea is that the hole was dug and left open for a time in which it rained and the usual silt washed in. [The buff sand could also have formed like this, NB, implying a wind from the E (no buff sand at the E end)].

[p32]

Tuesday 5 November 1991

[Arose at 5.30am, cold, to find my sited field missing. After lighting calor gas [and] starting

generator made an extensive search and concluded that Linda had taken it from my office, put it in the lock up and gone to bed with the keys.....the lesser joys of Sutton Hoo.]

1. Recording to be done before further lifting takes place

- Find in E-W section under upper left leg Fe lump with pebbles. Requires lifting. FLR very important. Could be ferrule of (broken) spear shaft.
- Kubiena of buff sand (and brown sand if you can find any) to check their character (rain-wash, tread etc)
- Check position and dimensions of shield group
- Finds numbers for E and W rivets of shield and samples of "shield stain"
- Lift shield boss and look for spear shaft
- Inventory descriptions in the ground

2. Further observations on burial sequence, needing more recording

*The brown sand which lies above the natural could be rain wash (easterly wind). Therefore should be v. thick at the W. [It isn't]

*The yellow sand around the coffin should not be upcast that fell back in (since it would not have clad the sides of the coffin). But check all the same that it does not cover the W heap (S facing section at W end). [Definitely NOT]

[p32b]

* Check for limit of shield beneath bucket (black wood stain). [Dug out by BM]

* Check direction of grain of black wood stain, supposed to be shield board beneath bucket [no longer convincing]

* Samples required (ie more samples) from:

- coffin
- coffin flap (W)
- brown earth wherever you find it
- black stains S of W heap
- brown staining S of W heap
- shield board: black stain under bucket
- shield board: brown earth connecting rivet and boss
- Iron concretion around bucket.

[p33]

Record of situation under coffin at W end [N690/29-30; S364/1-2]

Beneath coffin at W end (NW quadrant of section). Coffin merged into coffin flap. Coffin flap could be distinguished from W heap strata and came away from face. Buff sand gives way to panned sand or (to SW) hard blackened small gravel.

In the photograph taken (c. midday 5 Nov). The scale lies over a depression in panned sand caused by excavating for the kubiena sample. The scale also lies along the E-W section line (as was). To the N of the scale (and S of the spear) is a sub-rectangular patch of sticky dark earth - in texture a bit like coffin wood. A thin line runs SW, under heap, to reappear at SW. This blob (8315) also appears to terminate a plank-like strip, disappearing under heap. The impression is of a table set in the corner.

Under sword.

Sword came up with wood on underside, matching that on top. Bronze fitting also in sword complex and lifted with sword. Vertebrae intact at either end. No other features visible on coffin.

Wood present under pelvis (S).

[p33b]

Under coffin (central)

Brown earth photographed as N696/8. In the brown earth a sherd of red (?Roman) pottery. Under the brown earth, the swirling natural system.

Note on contexts beneath the coffin

(1) 1587: Fine sand with few stones; yellow-buff. Described as “buff sand” on section. Apparently identical to the sand found cladding the coffin at sides and top. It lies on:

(2) 1588: Brown earth with stones, mainly very thin (1mm), but thickening to 1cm under central area of coffin. 1 sherd of pottery (8317) probably prehistoric from it. This must be tread, derived from the sides. Probably the same as the strong brown earth adjacent to shield boss and identified as shield board stain. (More probably a depression in the natural, filled with tread).

[p34]

Notes on the body

- Head lies on left ear, but crushed. Teeth small and ‘pearly’
- Pelvis cut by clean cut vertically in centre. [This was not done during the excavation]. A very clean, ancient cut in a very painful place].
- Right leg upper was cut by us [for section], using a hack saw. Bone very strong.
- Sword lifted with patch of wood adhering above and below near the guard. No bone taken on lifted sword.
- lower legs and ankle bones intact, but NO foot bones. No sand-body detected anywhere.
- Upper vertebrae appears to have 2 necks in parallel. Main neck has 3 or 4 rings to S. are these bone?

[p34b]

Wednesday Nov 6

The shield area

The stony brown earth, inset in a curve S of the shield boss is coincident with a curve in the natural seam. [Therefore] almost certainly tread, in the soft sand, along a natural seam, and not a shape suggestive of the shield board. [Therefore] we have, it must be admitted, NO convincing trace of the shield board. Distances: From boss-stud to W rivet c20cm; From boss-stud to E rivet c.22cm. The shield lay above the spear; [p35] therefore spear shaft should survive under boss: lift boss deep. Radius of shield in the ground 40cms (diameter 800mm).

The spear

Leaf-shaped tip lies within F358 beneath a leather strap and over a layer of dark grey earth. This earth undersails the whole F358 complex, becoming brown to the S.

Post socket in the W end [wall]

Scantling in 9x9cm. The post/pole emerges into the grave at a slight angle above the horizontal (c10 degrees). It penetrates 8cm into the grave wall. Sample taken of fill 1586.

The Western Heap, F358

is composed of three layers:

- (1) grey sand with leather and iron and bronze
- (2) sandy patches
- (3) dark sandy loam

[p35b]

Of these three the first two are confined to the area of finds and the block lifted. That is, the block lifted contains all of both layers, apart from up to 1 cm cleaning back on all sides.

However the bottom layer spread out in an apron to the S and E (see Stage 10 plan and photograph). This layer may have extended to beneath the W end of the spear, where it meets the shield. It is not a natural deposit (which comes up directly under it) but it may be analogous to the brown earth

beneath the coffin supposed as tread.

Thursday 7 Nov

The lifting operation has now rendered the base of the grave unreadable; disturbance due to lifting has produced a sandy mush (not unlike 1588) up to 5cm deep in the centre and east. A hachure plan would not be representative.

The finds were lifted in the following order: sword- cauldron - bucket - rivets of shield - shield boss - spear - F358.

Sword was reinforced with plaster bandage and polyflexol; cauldron and bucket reinforced with plaster bandage; shield components were lifted as they were; spear was provided with a polyflexol jacket and worked loose by hand (Fleur and MOHC). F358 was isolated and removed by coating in polyurethane foam under chicken wire, steel-plated [beneath] and turned over by hand. [p36] There was some loss in this operation to the E end where a cavity c.3cm wide by 4cm deep appeared along the E edge; one Fe object was exposed at the S edge of the cavity. The operation was therefore 90% successful. The base of the block was trimmed flush with the jacket, losing about 1-4cm of stable natural (still striated or in original formation).

The completely jacketed block was overturned again, placed on a felt matting over a table-top and lifted with webbing straps by chain attached to a JCB driven by Garrow Shand. The lift was accomplished with the back-actor and transferred to the front bucket for transport to a platform constructed (by Peter Berry) the same height as a Montego tailgate. It was there placed on rollers and rolled into the back of the estate car without mishap. It is to be transported to the BM with the rest of the F318 artefacts on 8 Nov by Jenny and Linda.

Also on this day the horse was lifted (by Linda) losing only the integrity of the head which collapsed under its own weight.

[p37]

[Review]

The excavation of F318 was a success in general. The stage method of excavating (without sections until the body) was essentially the same as used at the other graves. An intact burial is much easier to read than a robbed one.

Some of the post-Annette (ie Stage 9 onwards) recording was less thorough and less precise, because of the speed required to get the objects lifted before their deterioration became too grievous. This necessitated three weeks of very long hours, culminating in 5 days which included several hours under lamps in the evening.

Protection was achieved by covering the grave each night with a rigid roof and providing a clear-roofed shelter during rain; both constructed by Peter Berry.

The last two weeks were marked by an extraordinary fervour and fine team work. Never has an operation in my experience gone so smoothly: [thanks to] Jenny Glazebrook (administrator), Nigel Macbeth (photographer), Linda Peacock (finds supervisor) and the BM team Fleur Shearman, Man-Yee Liu, Dean Sully and Hazel Newey.

The only dark cloud emanated from Angela [Evans] whose resentment was understandable and position, as always, highly ambiguous. F318 has yet to be completed, with the excavation of the block F358. It is going to the British Museum where it can be [p38]best protected, but not necessarily most easily recorded. The partnership should be between self [MOHC] and Fleur and the excavation should happen soon (ie before Christmas). This programme may have been secured following a flurry of telephone calls, [including] a brief essay to consider excavation at York. This rendered Angela highly emotional, but was in any case rejected by self and Hazel when the latter [had] reviewed her programme and space. The BM also offered real time X-ray, which I was unable to find with any certainty at York or Sheffield (Non-Destructive Testing Ltd).

Interpretation

I have been at pains to discover all possible evidence for the total assemblage and the ritual of the burial. To this end the excavation has been a collaboration between stratigraphic recording and the curation of objects descending in the later days to necessary compromise.

However the stratigraphic sequence, and ritual of burial has been determined I think, and we have probably drawn the best part of the less visible components of the assemblage from the earth.

[p38b]

The F318 sequence [latest to earliest]

1509 - Dished in ploughsoil

Mound 17

1537 - turf

1516 - backfill

F353 (1582) - wooden tub

1572 - backfill (centre)

1576 - backfill (S)

8252 - comb, placed on top of coffin and slid off to rest by the side of coffin (N)

F356 (1577, 1578, 1587) COFFIN containing F359, skeleton, (8264) sword, (8263 bronze mount), (8257, 8266, 8256) mount with garnet and millifiori, (8260) hair ring, (8259) dagger, (7560, 7561, 7562, 7563) clamps.

8070 - bucket, 8070 cauldron, 8250 pot, F360 bag with ribs and bronze bowl

8277, 8308, 8309 - Shield boss and rivets; F358 harness and saddle.

8261 - spear (broken)

1591, 1588 - trample

F318 - cut for grave

1473 - buried soil

[p39]

The interpretation is as follows:

An oval hole [long axis] E-W was cut through prehistoric ditches and natural, the spoil being thrown up at each side and turf stacked at the W end.

After that passage of time, which probably included rain, and sand, stones and silt washed from the sides (1588) with some turf kicked from the W end (1591), the burial party arrived. One or more persons descended into the grave (creating trample 1588) and furnished the grave in the following order:

A spear, probably ritually broken

A shield placed on the spear, boss up

[Harness/saddle] the objects at the W end. They spilled over the spear tip.

The bucket, cauldron and 'haversack' containing provisions and bronze drinking bowl placed along the N side.

The grave furbishes then got out

The coffin was lowered - intended to occupy the S side, it nevertheless slewed N where it rested on the shield boss. Thus canted up, the body inside rolled S onto the sword.

The comb was then remembered and thrown onto the coffin, but slid down the N side

Backfilling then began. But then the (horse's) tub was remembered and placed above the harness [p40] at the W end.

Backfilling then continued (from both sides) until the grave was full.

[The horse was killed and placed in the grave and backfilled along with provisions]

The end-plugs of the coffin burst open ??
The outer bark of the coffin was replaced by sand?
[p41]

Finds List in order of appearance

1. Wooden Tub [1582; F353; Finds nos: 8024= wall sample]. Appeared at Stage 1. Over backfill (Stage 5, 6); which is over shield complex (Stage 7)
Diameter: 540mm (external)
Thickness of wall 20mm (max.)
Height [= 31.50 - 31.32 AOD] 180mm internally
Thickness of base [31.32-31.22 AOD] 10mm

2. Iron Clasp 7560
Appeared at Stage 2. 31.30 AOD. On coffin N, W

3. Iron clasp 7561, 8022 (nail)
Appeared at Stage 2. 31.29 AOD. On coffin S, W

4. Iron Clasp 7562
Appeared at Stage 2. 31.30 AOD

5. Iron Clasp 7563
Appeared at Stage 3. 31.23 AOD

6. Bronze bowl 8030, 8017 [8067 fill]
Appeared at Stage 4 31.24 AOD

7. Iron Bucket 8070. 8074= sample
Appeared at Stage 6 [32.15 AOD= 8074] Height of bucket 31.149 AOD

8. Animal bone 8072 (2 ribs); 8068 (meat also on underside of bowl no 6)
Appeared at Stage 6 31.08 AOD

9. Animal Bone (ribs) 8251 (3 ribs)
Appeared at Stage 7

10. Pot 8250
Appeared at Stage 7. Inside lugged cauldron 8249.

11. Lugged cauldron 8249
Appeared at Stage 7

12 Bone comb 8252
Appeared at Stage 7

13. West Complex F358
[elements of the harness plotted on the ground]

8103 [8109] 31.122 AOD
8111 Fe and plaque
8107 leather and pin
8108 Iron lump
8071 Iron, leather, bronze, T-shaped
8069 Ae axe-shaped fitting

3.10 **Assemblages**

Intervention 48 produced 8357 records of finds, detailed in Table 4. The most common class of

artefacts was ceramic sherds (2746 finds, or 33% of the assemblage) but burnt flint (2356 finds, or 28%) together with flint (1535 finds, or 18%) represent just under half the recovered assemblage. Note that only 35 flint implements were recovered, all the rest being waste products (flakes and core fragments).

The finds are distributed almost equally amongst features and 'floating contexts', particularly buried soils, in the latter category.

A more detailed breakdown of the finds' population of Intervention 48 can be found in the Tables

79% of the material assemblage from Intervention 48 is taken up by three big classes of artefacts; ceramic, flint and burnt flint. They are all prehistoric and are the subject of a later assessment.

Of the remaining 21% of the assemblage, 9% of 'finds' are routinely collected soil samples. A further 3% is taken up by 'non-finds', ie unused pre-allocated finds' numbers or discarded non-finds, mostly naturally cracked flint. Thus only 9% of the assemblage represents the totality of all finds other than prehistoric vestiges. However, with the discovery of early-medieval burials under Mounds 17 and 18, these proved extremely rich and varied.

Metal finds consist of 253 objects or fragments. Half of these are a mixed bag of modern nails and other modern fragments (59), pieces of wire (43) and ammunition (24 bullets, cartridges or pieces of shrapnel). These modern finds were recovered mainly from the topsoil, ploughsoil and on the western track surface. There are no great densities of finds observable, but a general concentration in the centre of Int. 48 is probably attributable to disturbances caused by the Longworth and Kinnes excavations of 1966-70 and to shooting practice against the medieval bank to the East of the track.

27 fragments of *slag* were recovered from various contexts, with the Beaker pit F29 containing 7 fragments.

This leaves 100 early-medieval metal objects:

2 are *ship-rivets* found in superficial contexts (recorded at 80/164 and 82/163 but, unfortunately, these grid references are wrong, as the site notebook clearly states that they were found on the surface of quarry pit F4 to the West of Mound 5) and are probably robber's losses when ransacking Mound 2 (further examples of rivet losses also occur in Intervention 41 south and Intervention 44) and point towards an orchestrated 'excavation' of a number of mounds at Sutton Hoo in 1860 (Carver Bulletin 8, 1993:13 and fig.7).

There are some 17 *bronze bowl* fragments from the ploughed cremation burial originally buried under Mound 18 (F57/F231), but their very small size may render a reconstruction of the bowl rather difficult. An inventory of these bronze bowl fragments has been compiled by Angela Evans at the British Museum, where these fragments are held.

Finally, 82 objects of bronze, some with silver or gold appliqué, and iron have been recovered from the 'princely' burial found intact under Mound 17 (F318, grave; F356 coffin; F358 bridle complex). These artefacts include a shield with boss, strap and rivets, spears, sword, buckles, fittings, strap-ends, bridle components including axe-shaped pendants and a bit, strike-a-light, bucket, cauldron and bronze bowl. They are the subject of the separate report and inventory of Mound 17 (Carver below, section 7.7) and are therefore not reported in detail here. The artefacts were excavated in October-November 1991 by Annette Roe, then lifted and handed over to the British Museum Conservation Laboratory team (Hazel Newey, Fleur Shearman, Man-yeet Liu) or, in the case of the bridle complex F358, lifted as a block and dissected in the Conservation Laboratory during the winter of 1991-1992 by Fleur Shearman. Efforts were made to tie in the on-site recording of finds' positions with that carried out in the Laboratory: a map showing the location of individual finds within the bridle complex is awaited and it will then be possible to superimpose the laboratory map onto the site grid.

The distribution shows the two concentrations of metal finds under Mounds 17 and 18. The few

other dots on the distribution plot are isolated finds in features, including slag in prehistoric pits (F29, F90, F203).

The next biggest group of finds are those of *bone*, numbering 243 records. A few bones are modern rabbit bones which found their way into superficial contexts and occasionally features.

44 bones belong to *horse*: 2 were found in the 'Beaker' pit F29. They are a fragmented metapodial and phalanx 1 and were found in a superficial context in the top of F29 (context 1048, windblown sand). This location makes the interpretation of this (probably articulated) horse lower limb rather problematical: either it is in context, ie contemporary with the Beaker assemblage, or this limb was dropped (?), lost(?), deposited (?) in a filled-in pit which may have still shown itself as a slight depression. The latter hypothesis is, on balance, more likely if rather incredible. The obvious period in which such a 'horse limb loss' may have occurred is the Anglo-Saxon period, since an articulated horse was inhumed under Mound 17 (see below) and cremated horses were recovered in Mounds 3 and 4. Horse sacrifice is therefore likely at Sutton Hoo: this aspect of the Sutton Hoo ritual has been drawn to the attention of T P O'Connor, who has shown an interest in studying further the possibilities of animal ritual, particularly those associated with horses in early-medieval England and Northern Europe.

A fully-articulated *horse* (F355, 42 bones/bone groups) was buried in grave F318, under Mound 17. Its head was at the west end, inclined towards to 'prince'. Both bone and decayed body outline were clearly present. The Mound 17 horse is the subject of a specialist report by T P O'Connor [July 1993, archive report Z.1.17(4) and Z2.2(21)], who notes that it is the size of a large pony or small horse of 14 hands or 1.44m at the shoulder. The sturdy nature of the animal and its large size compared to other Anglo-Saxon specimens (West Stow) would suggest that it is a horse rather than a pony. This equid was male, fully-grown, but not old (perhaps around 5 years) and showed no signs of trauma or cause of death (but this is quite likely, as a number of ways of killing a horse, like bleeding, would leave no traces). There are few signs which would indicate that it was ridden, although not unlikely. The relatively large stature and robust nature of the Mound 17 equid seems to be in accordance with other high-status finds from Anglo-Saxon England and the Low Countries.

Human Bone was recovered in two forms on Intervention 48:

A large group of extremely small bone fragments (167) originates from the ploughed *cremation* burial under Mound 18, once held within a bronze bowl, but later scattered (F57/F231). Interestingly, a further 4 cremated human bone fragments are recorded from the top of the quarry pit F4, to the west of Mound 5; it is very likely that when Mound 5 was robbed bone fragments were scattered widely and collected in the depressions left by filled-in quarry pits (this is also where losses of ship rivets occur, being part of the 1860 robbing campaign).

12 bones/bone groups belong to the *inhumation* discovered in an oak coffin in grave F318 under Mound 17 (the body being F359). They belong to the extended, supine body of a young male, around 25 years of age (pers. comm. Frances Lee, from whom a detailed report is awaited).

Finally, mention must be made of *3 bone objects*: a composite bone comb with bronze rivets from the grave F318 under Mound 17, and 2 tiny fragments of a composite bone comb from the cremation burial F57/F231 under Mound 18 (this is all that Mound 18 produced: cremated remains in a bronze bowl accompanied by a bone comb).

The distribution of bone finds in features shows clearly the three early-medieval burials (inhumed horse and human, cremated human) with a scatter of cremated human bones in the top of quarry pit F4, West of Mound 5.

Charcoal (120 finds) was collected on a grab basis, whenever it occurred in sufficient quantities to be noticed and collected as flecks. However, few contexts appear to be rich enough in charcoal, or significant enough to warrant further investigation, identification or C14 dating. Exceptions are:

- the very dark fill of the Iron Age gully F56/F172, where some 37 disparate and separate

instances of charcoal have been recorded. The Iron Age appurtenance of the enclosure is, however, not in doubt (stratigraphically and through the presence of Darmsden ware) and C14 dating is not proposed as an option.

- It may be worthwhile investigating further the EBA dating proposed for a number of features, namely pits and linear boundaries (Beaker pit F29 with slag, 2 charcoal samples but also 24 matrix samples; pit F90 with barbed and tanged arrowhead, slag and 5 charcoal samples; ditch F198 and gully F274 with 6 charcoal samples together). But it is uncertain whether quantities, type of wood and deposition circumstances are secure enough to warrant C14 dating to be undertaken.

Metal (3% of the assemblage), bone (another 3%) and charcoal (1.5%) make up 7.5% of the total assemblage. The remaining 1.5% (109 finds) are much smaller groups or classes of 'finds'

Amongst them figure 30 bags of organic residue identified as **wood**. Some 20 samples originate from what is interpreted as boards or a collapsed coffin (F347, 348, 352) within the grave F349 which contained a (sacrificed?) body (F351) placed in the base of quarry pit F287, belonging to the western group of Mound 5 quarry pits. 6 samples stem from the horse burial F318 under Mound 17 and may either belong to some roofing structure or represent other organic matter piled into the top of the grave (turf). Finally, a further 4 fragments of wood are reported from the 'prince's' grave F318 under Mound 17: 1 from F318, 2 from F356 (coffin; there are also 12 matrix samples and 1 charcoal sample) and 1 associated with the bridle complex F358. The wood from the coffin is confirmed as mature oak (*quercus* sp.) (letter of Janet Ambers to Martin Carver dated 9.7.1993) who is of the opinion that it is therefore not suitable for dating.

27 samples are recorded as being **organic body remains**; associated with the horse F355 in grave F319 under Mound 17 are 15 samples; with the body F351 found in quarry pit F287 to the west of Mound 5 are 11 samples and only 1 sample is listed as body material belonging to the body of the 'prince' (F359) in grave F318 under Mound 17.

There are 3 further **unidentified organic residues** listed as being part of the bridle complex F358 and 7 finds tentatively identified as **leather** in grave F318. Excavation and conservation work the British Museum's Conservation Laboratory by Fleur Shearman will no doubt throw further light on these residues and probably reveal more organic deposits associated with the metal finds of Mound 17.

Further artefacts from Mound 17 include 5 fragments identified as belonging to **textile** (from F318), 1 loose **garnet** and 1 **glass inlay** (both found in coffin F356).

Thus, the whole Mound 17 grave complex (grave F318, tub F353, coffin F356, posthole F357, bridle complex F358, body F359 and leather bag F360) has produced a very rich assemblage, summarised in Table 5.

The remaining few finds from Intervention 48 are a rag-bag of artefacts of little import, consisting of some fragments of daub (14), coal (5), sandstone (2), shells (2), glass bottle (2), 2 seeds and a nut. Note also that 7 instances of **vitrified sand** are recorded from the cremation burial F57 under Mound 18. Originally thought to be fragments of glass, they are in fact the by-product of heat and sand, such as would occur on a cremation pyre. A technical note by L Peacock and Julian Richards [research archive Z.1.17 1] reports on these instances of vitrified sand. It is, however, not envisaged that F57/F231 represents the remains of a pyre *in situ*, as these few microscopic fragments could easily have been picked up and transported to the burial with the cremation.

Having run through all the finds except the three big classes of prehistoric finds, it is appropriate to end the finds' report with an assessment of prehistoric flint, burnt flint and ceramic, since they are by far the largest components of Intervention 48's finds assemblage.

We shall start with **flint** (18% of the assemblage) and **burnt flint** (28% of the assemblage), since together they form nearly half the total finds' assemblage recovered on Intervention 48. The

discussion will focus mainly on their distributions and densities as the intention of this report is to examine deposition and post-depositional processes, rather than typologies and chronologies. A student project by Elena Baldi (1994) on the flint implements from Int. 48 seems to have borne no fruit.

Burnt flint (or Bflint hereafter) was recovered routinely at Recovery Level C (to m² only) and D (to nearest cm) in the various fieldwalking, stripping, clearing, trowelling and cleaning operations that took place. They were picked up on site as all other finds, their attributes recorded in the Finds' Index, and then they were all discarded. Apart from locational information, the Finds' Index lists each Bflint's weight and a type number (1 = calcined, 2 = pitted, 3 = cracked) which is an indication of the measure of heat the flint piece was subjected to. But no attempt has been made to plot out the three different types separately as it is a time-consuming process for a very doubtful result.

Slightly less Bflint was recovered within excavated features (1018 finds or 43% of the Bflint population) than in the topsoil, ploughsoil, buried soils and other layers above Horizon 2. These proportions are identical for flint waste products. It must, however, be remembered that only a third of the features were excavated: the proportions would probably be reversed if all features had been excavated. Nevertheless, it can be said that burnt flint and flint (unlike pottery, almost absent in the topsoil) are good indicators of what is to come. The numbers of finds increase each time but the general distributions in topsoil and ploughsoil reflect faithfully those found in the buried soil. There is therefore little doubt that the buried soil was ploughed on Intervention 48.

There seems to be little reward in looking more precisely for greater or lesser concentrations within the general distribution plots, as differing recovery levels can account for variations within the plots where the northern part of Intervention 48 - where recovery level D was applied - is much richer in finds than the rest, recovered at level C).

Finally, we must briefly turn to the occurrence of Bflint within features. As a generalisation, there seems to be no direct correlation between densities of Bflint in the buried soil and in the features. The buried soil seems to act as a 'masking' layer with lots of finds, not letting through glimpses of features cut through the subsoil underneath. The distribution of Bflint is merely an illustration of where features exist and where these were excavated: blanks simply show where there are no features or where they were not excavated. The major features can easily be picked out in the analysis: the long, thin N-S strip represents the Iron Age gully F56/F172, dense patches represent pits F2, F29, F203, F131, F90. Further concentrations in the NW part of Intervention 48 and against its eastern edge show the redeposition of burnt flint in early-medieval contexts (Mound 17 and the quarry pits of Mound 5).

Amongst features, wealth in burnt flint generally reflects wealth in other finds: thus prehistoric pits F2, F29, F90, F203 and Iron Age gully F56/F172 all contain large quantities of prehistoric debris including ceramic, burnt flint and flint. This is also true for the large early medieval features (quarry pits F4 and F287, graves F318 and F319). To a degree, it is true to say that the bigger the hole, the more debris collects into it, either as rubbish or through redeposition.

There is one feature, F131, in the centre-south of Intervention 48 (at 081/151), cut by pit F203, which produced a large quantity of burnt flint (108 finds) without the accompanying other debris (only 4 sherds of pottery and 4 flint flakes). It was an unspectacular feature, roughly oval @ 2.50m x 1.20m max. dimension) some 45cm deep from the top of the natural. There are no clues as to the use of this scoop, except its wealth in burnt flint. No new ideas for the origins and function of burnt flint are offered here. It seems that this class of artefact is part of the general debris that accumulated over Sutton Hoo's long episode of prehistoric occupation, rather than a testimony to a specific use (land-clearance, or 'pot-boilers' or 'sauna'). This conclusion is drawn from the similarity of the distribution of burnt flint to those of flint and prehistoric ceramic.

Flint, consisting of 1535 finds (18% of the assemblage), is the third biggest group of finds on Intervention 48. Much of what has been said about burnt flint applies equally to flint and the ensuing commentary will therefore be rather brief. Further, findings from Elena Baldi's study of the Intervention 48 flint will flesh out this summary.

Flint was recovered in similar proportions to those exhibited by burnt flint: 43% of flint was recovered in features and 57% of flint stemmed from topsoil, ploughsoil, buried soils and layers above Horizon 2. But it must be remembered that only one third of all the features was excavated.

Again, the distributions of flint in topsoil, ploughsoil and bank are a faithful reflection of the distribution of flint in the buried soils, complemented by that of flint in contexts above Horizon 2. Again, proportions increase, and greater densities in the buried soils reflect different recovery levels rather than indicate the presence of subsequently defined features.

Flint finds found within features reflect major episodes in Sutton Hoo's sequence: the long, thin strip of the Iron Age gully F172/F56 is visible and concentrations in the Early Bronze Age pits F90, F29 and F203 are present (two features are notable for their absence: F2 rich in ceramic and Bflint but not flint, F131 rich in burnt flint only). There are also lesser concentrations of flint in ditch F198 (15 flakes) and the neolithic pit F116 (14 flakes). Again, a large number of flint finds found their way into later features, particularly the early medieval quarry pits of Mound 5 (F4 and F287), the graves under Mound 17 (F318 and F319) and the ditch F59/F188 accompanying the medieval bank.

On the whole, the image presented by Intervention 48's flint is rather poor: only 35 finds out of 1535 are those of flint *implements*, the rest being all waste products, that is waste flakes and cores or core fragments. Amongst waste flakes, it is difficult to pick out easily great concentrations but it is certainly possible that the rather dense concentration of flint in the buried soil in the north-western corner of Intervention 48 shows knapping activity similar to that of Longworth's and Kinnes' knapping debris in Pit F12 (Longworth and Kinnes 1980: 14, 42, plate 6).

The 35 implements recovered on Intervention 48 consist mainly of scrapers (17), complemented by a variety of other retouched implements. There are only 2 blades, 2 roughouts, 2 arrowheads and 1 knife. The predominance of scrapers would certainly fit the domestic interpretation put forward for Sutton Hoo, and the range of artefacts fits within the very broad chronological bracket at Sutton Hoo, namely Middle Neolithic to Iron Age. The two arrowheads are a tanged and barbed (and also burnt) arrowhead from F90, at home in a late Neolithic/Early Bronze Age Beaker context, and a later Neolithic transverse arrowhead.

Looking at the distribution of flint implements is a uninspiring exercise as the finds are so few and the pattern so diffuse. Notice how few implements were found within feature fills (8 implements only, and 3 of these are redeposited in late features) compared to 12 in the topsoil and ploughsoil and 15 in the buried soil and contexts above Horizon 2. Looking at implements by themselves seems to be an exercise with limited value, at least in this part of Sutton Hoo: it can give an indication of the date range and possible nature of the site, but cannot be used to help with the interpretation of specific features. The distribution of implements cannot either be indicative of activity areas within the prehistoric landscape, as the count is too low and the pattern too diffuse.

Last, but not least, in this assemblage summary comes the *ceramic* assemblage from Intervention 48. It is the largest group of finds (2746 fragments or 33% of the assemblage) retrieved.

Ceramic material includes artefacts other than pottery, but these are few: 89 fragments are recorded as 'fired clay' (probably prehistoric) and there are also 11 tiles, 3 pieces of brick and 3 fragments of claypipe, mostly from the topsoil and ploughsoil 1000 and 1001 and the track surface 1354.

This leaves 2651 sherds of *pottery*, the vast majority prehistoric: only a handful are later (the Finds Index lists 11 sherds as Roman or Post-Roman, one near-complete Anglo-Saxon pot from the grave F318 under Mound 17, and 6 post-medieval or modern sherds from superficial contexts).

A note on the status of the pottery recorded in the Finds' Index:

All pottery finds up to finds' number 5000 have been identified to type or, if the type could not be ascertained, marked as unidentified (UNID). From find no. 5000 to 8357 (database disks 3 and 4) hardly any pottery finds have been assigned to type and none have been marked as unidentified if they were unidentifiable. Thus, there is still a group of 1280 sherds of pottery which have not been examined, assigned to type or marked as unidentifiable and disks 3 and 4 will need completing once

this is done. Table 6 gives a breakdown of the status of ceramic finds on Intervention 48.

After the 1991 season had been completed, a pottery finds' report (up to find 4388) had been compiled [M Hummler in Research Archive Z.1.17 (3)]. Obviously, all the statistical information is now out of date and could not be rectified, since the remainder of the pottery has not been assigned to type. However, the main points regarding distribution, feature identification, dating and sequence remain valid and can still be made to include the batch of untypified pottery; it is suggested that the tenor of the pottery report, once all sherds are incorporated into it, will not change dramatically. The exposé of the pottery will therefore continue below in general terms without finer details and statistics relating to individual types.

The pottery from Intervention 48 stems from two major groups of deposits: 1162 sherds (or 44% of the pottery assemblage) were recovered in features (but only one third of all features were excavated); the remaining 1489 sherds (or 56% of the pottery) come from 'floating contexts' in the main buried soils (46%) and far fewer from the topsoil, ploughsoil and contexts above Horizon 2 (10%). These quantities are illustrated on the distribution plots of ceramic in the topsoil, ploughsoil and bank, buried soils, contexts above Horizon 2 and finally features. The main lessons to be learnt from a comparison between these distribution areas are:

- hardly any pottery survived in the topsoil; unlike flint and burnt flint, pottery cannot be used as an indicator of surfaces to come. The very poor showing of the topsoil plot cannot be blamed on the difficulty of recognising sherds while fieldwalking or fast-trowelling. It is much more likely that pottery has suffered severely from erosion.
- the distribution of ceramic in the ploughsoil and bank reflects that of ceramic in the buried soils below, but not as faithfully as that of flint or burnt flint, being quantitatively still rather poor. Thus ploughing contributed to the erosion of pottery.
- the increase in ceramic material in the buried soils is dramatic, even when different recovery levels between the northern and southern parts of Intervention 48 are taken into account. This is also what Longworth and Kinnes (1980: fig 4a) found in their 'dark layer'.
- 'holes' in the distribution of ceramic in buried soils are neatly complemented by densities of ceramic in features. The two distributions must be read in tandem.
- the distribution of ceramic in features is the clearest illustration of the major features present on Intervention 48 as, unlike flint and burnt flint, little pottery gets into minor features, thus eliminating 'background noise'. On the other hand, major features could not be predicted from densities in the buried soil, since the concentrations are complementary. There seems, therefore, little alternative to digging major features if one wishes to recover substantial assemblages.

The major pottery-bearing features on Intervention 48 are the prehistoric pits F90, F29, F203, F116 and F2, the Iron Age gullies F56/F172 and F284, the deep early medieval quarry pits of Mound 5 (F4 and F287) and the graves F318 and F319 under Mound 17.

Further, but lesser pottery-bearing features are 2 prehistoric postholes (F27 associated with 'Beaker pit' F29, and a Bronze Age posthole in the north-east of Intervention 48, F283) and a few features where prehistoric pottery is found redeposited (medieval ditch F59/F188, the cremation burial F57 under Mound 18 which disturbed a concentration of pottery in the buried soil).

Thus, only around 15 features among 364 identified contain significant assemblages of pottery. Even if all features were excavated, the resulting picture would not be expected to be very different. It is these features alone that provide the basic building blocks upon which the sequence rests (see section 4.3 below). Dating and phasing this pottery will be our next concern (bearing in mind that some 1280 sherds of pottery still need to be assigned to type or declared unidentifiable).

Middle Neolithic pottery comes in three forms, Neolithic coarse bowls (or NEOCO), Neolithic fine bowls (or NEOFI), and Neolithic decorated Mildenhall ware of high quality (or NEOMIL). However, there may be some confusion between sherds of Neolithic fine wares and Iron Age pottery and the identification of Neolithic fine wares must remain provisional. Nevertheless, Neolithic pottery shows a widespread but not particularly dense neolithic occupation, with one pit (F116) producing a closed assemblage. Similar pottery was recovered by Longworth and Kinnes (1980: 31 and fig 20, p1-12).

Late Neolithic pottery is represented by a few sherds of Peterborough Ware (or PW) which add to the 24 recovered by Longworth and Kinnes (1980: 31 and fig 20, p13-21). Slightly more frequent is Grooved Ware (or GROWA) which come to join the 12 sherds identified by Longworth and Kinnes (1980: 31 and fig 20, p22-26). They note a concentration of Grooved ware in the central-southern part of their Area A, which joins a (rather faint) concentration of Grooved ware in the centre of Intervention 48, in an around the 'Beaker' pit F29. A further sherd of Grooved ware was found in pit F90 in the northwest corner of Intervention 48, which also produced a barbed and tanged arrowhead. The association of Grooved ware with Beaker material is worth noting since Ros Cleal (1984: 138) points out that Grooved ware often occurs in close association with Beakers in East Anglia. She adds (ibid: 147) that in East Anglia (unlike, for example, Wessex) Grooved ware often denotes occupation of a domestic kind; domestic occupation and land-use is indeed the interpretation put forward for late Neolithic/Early Bronze Age Sutton Hoo.

Beaker pottery is not particularly common on Intervention 48 (compared to Intervention 41 or 55) but a few sherds of fine wares (or BEAFI) have been recovered in pit F29 and in the buried soil around F29. More common are rusticated wares (or BEARUS) or fingernail impressed pottery, again found to cluster in and around pit F29. Longworth and Kinnes (1980: 31 and fig 21 p30-55) have also noted a concentration of rusticated wares in their cutting II, which touches our pit F29. Pit F29 can be declared a Beaker pit, albeit not as rich as some pits on Interventions 55 and 41. Further features are suspected to contain Beaker elements, namely pits F90 and F93, posthole F27 and F101 and the top of the linear boundary ditch (Longworth and Kinnes 1980: ditch 1, p31), but further identification is required.

Bronze Age pottery: a very large group of pottery has not been identified further than as being of likely Bronze Age date (Bronze Age, Unspecified or BAUN) (272 sherds so far). It is likely that a large part of this BAUN pottery belongs to an early Bronze Age horizon, and could be contemporary with, or at least following very closely, our Beaker horizon, since the Beaker assemblage is late (a sherd of Bronze Age Collared Urn (or BACOLL) has also been recovered from Intervention 48). Longworth and Kinnes (1980: 32 and fig 21-22, p36-50) also assign their Bronze Age pottery to an Early /Middle Bronze Age phase and note that half of their pottery was recovered from the linear boundary ditch F1. Questions that require further investigation are: how far into the Bronze Age does this pottery persist and can a Middle or even later Bronze Age facies be recognised, out of this mass of unspecified Bronze Age sherds? Further work on this still somewhat undefined pottery is important, as only then could the site sequence be refined. We need to know what is acceptable as part of an Early Bronze Age-Beaker assemblage, how long-lived the major boundary ditches were, when in the Bronze Age did the fenced enclosure come into existence, and whether any features within can be suggested as contemporary with the fenced phase. But, short of finding a sherd-guru, the task appears daunting, as few sherds appear to have any diagnostic features.

Iron Age pottery sherds, positively identified as such number 66 so far. They occur predominantly in the palisaded enclosure F56/F172 (and postholes F262, F272) in the buried soils and in later contexts. Longworth and Kinnes (1980: 32 A) have also recovered a large group of Iron Age pottery, which Valerie Rigby identifies as Darmsden Ware, filling, amongst other features, their ditch 2 (part of the enclosure). Finally, it is likely that further Iron Age pottery has been misidentified as Neolithic fine wares, and it may be necessary to re-examine these wares. Only then (and when the index is complete) might it be possible to assign features within the palisaded enclosure to the Iron Age. At present, none are obvious, but this is unsurprising when dealing with the bases of truncated postholes and scoops.

Lastly, a very small amount of pottery has been recognised so far as belonging to *Roman, Post-*

Roman, Anglo-Saxon, Medieval and later phases. It may be possible to suggest that ploughing and manuring of fields took place sometime during the Roman period, which would account for a dozen sherds found in superficial contexts and in the tops of features (filled-in pits F2 and F4). In the Anglo-Saxon period, the rather meagre collection of pottery from Sutton Hoo enriches itself with the addition of an almost complete pot (in the British Museum Conservation Laboratory) from grave F318 under Mound 17. This new pot may help with the identification of further Anglo-Saxon pottery and may help confirm the date of the Anglo-Saxon cremation urn recovered by Longworth and Kinnes in their cutting IV (1980: 11) which Bruce-Mitford (1975: 28 and figs 22-3) dates to late 6th - early 7th C AD. Hardly any sherds of medieval or post-medieval pottery have been picked up on Intervention 48, a somewhat surprising feature considering that a late-medieval date is proposed for the construction of the bank that borders the western track.

4. MODELLING THE SEQUENCE

4.1 Evidence for strata function [the formation of the strata encountered]

No specific analysis was undertaken to understand further strata formation on Int. 48. However, the distribution plots of ceramic, flint and burnt flint and the text describing horizon definition (section 3.4 and 3.5) go some way towards elucidating post-depositional strata formation, particularly ploughing in perhaps Roman times (section 6) as well as more recent times.

4.2 Evidence for the sequence from stratigraphy

The map of all features identified against the natural subsoil at Horizon 2 was constructed along the lines presented in section 3. Marked in outline are all features identified, marked in black are all those excavated. In all 364 features were identified, 128 (or just over a third) having been excavated or removed with records. A large number of features, when mapped and often also when excavated, cannot be presently assigned to any of the major episodes of activity at Sutton Hoo. Nevertheless, major features can be fitted into a sequence presented below.

There are few direct stratigraphic relationships observable on Intervention 48, but some do help to construct a basic framework. They are:

Late Neolithic/EBA ditch system (F7, F337, Longworth and Kinnes Ditch 1)

is cut by

IA enclosure system (F56/F172, F284, F286, F330, F336, Longworth and Kinnes ditches 2 and 4)

which is cut by

Anglo-Saxon burial F318 under Mound 17; Mound 17

is truncated by

Medieval bank and ditch F224/338, F59/F188

These very basic relationships can be somewhat added to if relationships observed elsewhere at Sutton Hoo (on Intervention 41, 44 and 50) are taken into account and when contemplating the finds' assemblages recovered within features.

4.3 Evidence for the sequence and its dating from finds

8357 finds were recorded on Int. 48. It is salutary to remind ourselves that some 6640 of these are attributable to the prehistoric period, and only some 630 to subsequent periods. The remainder of finds recorded (870 soil and charcoal samples, 220 'non-finds') has no significance for dating the sequence. Thus over 90% of the assemblage is prehistoric and less than 10% belongs to the period of the zenith of Sutton Hoo, the Anglo-Saxon period.

The finds' index, when searched under keywords "type" and "date" yielded the following information:

Finds dated to the *Postmedieval and Modern* period were recovered mainly from the turf and topsoil 1000, the ploughsoil 1001, the surface of the track 1354 and a series of clearing layers above Horizon 2 in the southern part of Int. 48 (contexts 1161, etc.). They consist mostly of metal finds such as spent ammunition, nails and other ferrous objects and pieces of barbed wire, concentrating in the centre of Int. 48 and its western part, next to the track. The ceramic assemblage from the same contexts is much sparser, with a few brick and tile fragments (from 100/1001 and the track 1354), 3 fragments of claypipe and 6 sherds of post medieval or modern pottery. A few modern

rabbit bones, lumps of coal, slag, sherds of glass bottle complete this assemblage.

A few modern finds found their way into earlier contexts: a nail, a tile, a sherd of glass bottle and some slag and shells are recorded from the medieval bank and ditch F59/F188 and F224. Pressed into the top of the buried soil were 3 fragments of tile (1 each in 1028, 1056, 1462) and 1 bullet (1058). A brick was also pressed into the top of the Iron Age gully F56 (1108).

Slag is assumed to be of recent date unless proved otherwise. In this respect the prehistoric pits F29 (7 fragments), F90 (2 fragments) and perhaps also F203 (1 fragment) need to be singled out: the slag from these pits is highly likely to derive from prehistoric artisan activity.

There are no finds belonging to the *Medieval* period to be reported from Int. 48.

For the *Early-Medieval* 1 period, datable artefacts stem from three complexes: first and foremost from the princely burial complex F318 under Mound 17 (about 100 artefacts, detailed in Table 5), secondly from the cremation burial F57/F231 under Mound 18 (17 minute fragments of a bronze bowl and 2 pieces of a composite bone comb) and thirdly from the top of quarry pit F4 to the west of Mound 5: 2 ship rivets may have ended up there after the 'excavation' of Mound 2 in 1860 (there were also 4 pieces of cremated human bone from the same location, perhaps emanating from the robbing of Mound 5 at the same time). To this should be added the finds made by Longworth and Kinnes in 1966-70 (Int. 11, namely a bronze artefact and bead dated to the 7th C AD in Burial 56, and an Anglo-saxon cremation urn dated to the 6th-7th C AD in Burial 13).

The other two early-medieval complexes (the horse inhumation F319 and the burial in quarry pit F287), while securely dated to the Anglo-saxon period, have produced no artefacts independently attributable to the early-medieval period. Since the early-medieval assemblages are the subject of detailed selected studies (see section 7), they will not be presented in greater detail here.

Pottery finds recorded as sherds of *Roman or Post-Roman* vessels number eleven: two were recovered in superficial contexts (1000 at 57/166; 1121 at 66/156) four from the tops of features (2 in F4, 1 in F2, 1 in F59) and five emanate from ancient or "buried soil" contexts (2 from 1056, 1 from 1057, 2 from 1461). This thin scattering would be compatible with manuring and ploughing fields in pre-Saxon times.

For the *Prehistoric* period, the identification of pottery has been used as the main indicator of sequence, as flint cannot give more than a broad indication of date and as only a few flint implements are present in the assemblage.

Int. 48 has produced some 2630 sherds of prehistoric pottery. As explained in section 3.10, only just over half of this pottery has been assigned to type or registered as unidentified in the finds' index: 1280 sherds of pottery (from finds 5000 onwards on disks 3 and 4) remain to be examined. Results are therefore only provisional. Of the recorded pottery finds (1360 sherds), 890 sherds are unidentifiable and 470 sherds (or one third) can be identified to type.

Iron Age pottery is, at present, rather thinly represented in the assemblage (some 66 sherds positively recognised as belonging to Iron Age wares). This is partly due to the fact that a number of sherds have been mis-identified and attributed to Neolithic fine wares; with hindsight, this is erroneous and the finds' index will have to be amended accordingly after re-examination. The features producing Iron Age sherds (28 identified so far) are the enclosure gully (or palisade) F56/F172 and postholes belonging to it (F271, F272). The Iron Age date for the enclosure, already proposed by Longworth and Kinnes (1980: who note Darmsden ware in their ditch) seems beyond doubt.

A second group of Iron Age sherds (25 so far) stems from ancient or "buried" soil contexts (1056, 1199, 1209, 1216, 1461, 1462), especially in the vicinity of the trajectory of the Iron Age enclosure. Finally, a few Iron Age sherds end up redeposited in later contexts (1001: 3 sherds) and features [the bank and ditch F59 and F224 (5 sherds), the quarry pit F4 (2 sherds)]. This leaves three features, each having produced a single sherd of Iron Age pottery: F2, F93 and F262. Pottery from these

features will need re-examination before an assignation to the Iron Age could be attempted.

Bronze Age pottery: a very large group of pottery finds identified so far on Int. 48 (272 sherds) belongs to the Bronze Age phase of occupation at Sutton Hoo, most likely the *Early Bronze Age*. It must be said that, in the absence of diagnostic features, it is extremely difficult to identify securely body sherds from coarse storage vessels and a number have probably been mis-identified. Nevertheless, sheer numbers and the ubiquity of this type of pottery illustrates that the Early Bronze Age is the period of maximum exploitation of the Sutton Hoo promontory.

Some 90 sherds (so far) of Bronze Age pottery have been recorded from "floating contexts", while 180 sherds were recovered in features.

Amongst floating contexts, the largest group stems from ancient or "buried" soil contexts (67 sherds), while a further 25 sherds stem from topsoil and ploughsoil 100/1001 and contexts above horizon 2 in the southern part of Int. 48.

Amongst features, the pits F2 (6 sherds), F29 (25 sherds), F90 (8 sherds) and F203 (18 sherds) have produced significant groups, as have the postholes F27 and F232 (cutting F29) and F228. Most other Bronze Age pottery-bearing features (F111, 131, 135, 231, 239, 262, 264) contained only one or two sherds. F198 needs to be singled out: although it only produced 3 sherds of Bronze Age pottery in a section of this ditch, these 3 sherds are thought significant. It is upon these sherds of pottery and the nature and orientation of the ditch that the assignation of ditch F198 to the Early Bronze Age boundary system rests.

Finally, a significant proportion of Bronze Age pottery (c. 90 sherds so far) occurs redeposited in later features, namely a handful in the quarry pits F3, F4 and F5, 57 sherds in the Iron Age palisade [some may be misidentified and may belong to coarse Iron Age vessels] and 24 sherds in the medieval bank and ditch F59/F224.

Beaker pottery is present on Int. 48, albeit in small quantities (20 sherds recognised so far). Only 4 sherds belong to fine incised or comb-impressed wares, while 16 sherds belong to Beaker-rusticated wares. Pit F29 (and 2 nearby postholes, F27 and F101) can be singled out as containing the single most important Beaker assemblage (8 sherds + 1 in F27 and 1 in F101), while F90, F93 and F172 produced one sherd each. The ancient or "buried soil" contexts produced a further six sherds and finally one sherd came from the ploughsoil 1001.

For the *Later Neolithic period*, a handful of sherds thought to belong to Grooved ware have been found on Int 48: 3 sherds in the ploughsoil 1001, 3 sherds in the "buried soil" and one sherd in each feature F29, F90 (both pits with Beaker assemblages), F56 and F6. A single sherd of Peterborough ware is recorded from the quarry pit F4.

Earliest in the sequence is a group of 89 sherds of Neolithic pottery, in the Middle Neolithic bowl tradition: 61 sherds belong to coarse ware bowls, 6 sherds to Mildenhall ware (all found in pit F116). 22 sherds have been assigned to a Neolithic fine ware group, but caution must be exercised as it seems possible to confuse Neolithic fine wares with Iron Age pottery. The only feature producing a pure neolithic assemblage is F116 (a pit, see section 5.1 of this volume).

All other sherds of Neolithic pottery are considered redeposited, either in Early Bronze Age contexts (F29, F27, F203, F239, F93?) or later contexts (1 sherd in the Iron Age palisade F56/F172; 16 sherds in the quarry pits F4, F5, F6 which cut a Neolithic/Early Bronze Age ditch; 3 sherds in the medieval bank and ditch F59/F224; 19 sherds in the "buried soil" and 4 sherds in plough furrow F40 cutting the "buried soil" and, finally, 4 sherds in the topsoil and ploughsoil 1000/1001). The large amount of redeposited Neolithic pottery would indicate, firstly, that Early Bronze Age and later activity was indeed very extensive and, secondly, that Neolithic occupation was widespread but without precise foci.

In summary, the analysis of pottery from Int. 48 has helped to provide a framework for the sequence of events: a seriation table (Table 7) is given, illustrating the main datable features. These are:

For the Neolithic period:	F116, a pit
For the Early Bronze Age:	Pit F29 (with Beaker elements) Postholes F27, 101, 232, 111, 264 near pit F29 Pit F90 (with Beaker elements) Pit F203 and posthole F262 Pit F239 Posthole F228 Ditch F198 Possibly scoops F131, F135, treepit F93, pit F2
For the Iron Age:	Enclosure F56/F172 and postholes within
For later periods:	Quarry pits F3, 4, 5, 6 The bank and ditch F224/F59

The buried soil contexts as well as the ploughsoil and topsoil contain all datable types of pottery including what is thought to be Roman or Post-Roman sherds, suggesting that the buried soil may already have been ploughed in Roman times, as well as later.

4.4 Evidence for sequence and date from context designations

Excavating at Sutton Hoo season after season, an experienced excavator could hardly fail to notice that there seemed to be a correlation between the colour of the predominantly sandy fills of features and the date of the excavated assemblages from these features. Thus the notion of "dating by colour" came slowly into being and was used (by MOH Carver, see "tintogram" of Mound 2 in Vol. 4) to construct families of contents of similar make-ups and (possibly) deposition. The idea is not as preposterous as might seem at first: time and again it was shown that mid-brown fills tended to belong to early features (Neolithic and Bronze Age), very dark charcoal-rich brown fills to the Iron Age and pale greyish or "pinkish" fills to later features. This would broadly correspond to the soil history examined by soil micromorphologist Charles French (see Vol. 9), where early contexts contain rich agricultural soil and later contexts podsolised soils.

Thus, care was taken in recording as accurately as possible the colour of contexts when first encountered in horizon definitions (by photographing 8 x 4 "modules" and blowing up the colour print to A4, as described in section 3.1 of this volume) and by describing the colour of individual contexts (always sprayed damp) using its Munsell colour code. Indeed, of the many components of a context recorded, colour seems to be the only element that seemed to lend itself to analysis readily.

As a trial, it seemed worth investigating what colour the fills of features dated by pottery assemblages (in section 4.3) turned out to be: the data collected is presented in Table 8. The various Munsell colour codes could be grouped into three families: dark reddish-brown, (mainly codes 5 YR 3/3 and 3/4), mid-brown (mostly codes 7.5 YR 4/4 and 4/2) and pale orangey-brown (mostly codes 7.5 YR 5/*).

Although the scheme is simplistic, it shows that nearly all the prehistoric features and the buried soils are characterised by dark (anthropogenic) fills or mid-brown fills, the darkest being the Iron Age palisade F56. At the other end of the scale, all the quarry pits (F3-F6) and the medieval bank and ditch F59/188/224 all contain pale sandy fills, probably windblown deposits. Only two exceptions must be noted: the pits F2 and F29 which are certainly prehistoric, but whose upper fills may be accumulations of windblown sand in depressions which may be much later.

Thus it seems that there is some patterning in colours, from dark anthropogenic and prehistoric to light podsolised and windblown. This patterning cannot be interpreted on its own, but can be useful in establishing a sequence when employed in conjunction with other tools, such as pottery seriation.

4.5 Evidence from absolute dating

The following C14 dates were obtained for features uncovered within Int. 48.

- Burial 56 (of Carver's list of burials at Sutton Hoo: 1992:371) or the "skull pit" of Longworth and Kinnes (1980: 11, 29-30, here Int. 11): 746±79 AD.
- Burials 9 and 10 (Mound 17): at present no C14 date is available as the coffin within grave F318 is considered as unsuitable for radiocarbon dating, being mature oak (Janet Ambers.). However, further negotiations are in train with the British Museum Radiocarbon Laboratory to obtain C14 dates from the body of the "prince" in F318 and for the horse in F319.

No further radiocarbon dates are to be reported. If, however, a further programme of radiocarbon dating was to be approved for the prehistoric period, a number of recommendations made in section 3.10 (under charcoal) could be taken up, namely

- the dating of macrobotanical or charcoal material from pits thought to be of the Early Bronze Age date (F29, F90).
- the dating of charcoal from the very black fill of the Iron Age enclosure gully F56/F172
- the two horse bones found in the surface of pit F29 may be suitable for C14 dating, if only to distinguish whether they are of Beaker or Anglo-Saxon date.

4.6 Model of the sequence

The results from the excavation of Intervention 48 are rather typical of Sutton Hoo's flat areas: tantalising but ultimately frustrating, revealing a palimpsest of features belonging to a long-lived prehistoric past, occasionally giving detailed glimpses into a very severely eroded surface and revealing once more the complexity and variety of burial rites of the 7th C AD.

All phases of Sutton Hoo's sequence are present in Intervention 48, and the present report merely refines, rather than modifies the sequence already presented elsewhere (Hummler 1990: 15-16; 1991; 1993a & b).

First, occupation, probably of a domestic nature, starts in the Middle Neolithic: pits and sherds of Mildenhall ware, as well as coarse and fine bowls bear testimony to this phase. It seems that this first phase of occupation is rather widely, if loosely, spread without any discernable nucleus.

Second, right at the end of the Neolithic (Peterborough and Grooved Ware phases), but especially in the Early Bronze Age, a period of intense activity emerges from Sutton Hoo's records: the linear land boundaries that criss-cross the spur of Sutton Hoo are laid out and continue in existence or develop as a series of often recut open ditches well into the Bronze Age. Within these boundaries nuclei develop. On Int 48 such a nucleus exists in the centre of the area, where pits F29 and F90 accumulate domestic and perhaps artisan debris belonging to a Beaker domestic facies. Structures are likely to accompany these remains but are too severely eroded to hazard reconstructions.

Thirdly, a fenced enclosure replaces the linear boundaries sometime during the (Middle? Late?) Bronze Age, but on Int 48, as elsewhere at Sutton Hoo, this perhaps pastoral phase of its prehistoric past (encompassing an element of 'show') remains somewhat bare of internal features: it is suggested, rather tentatively, that the interior may have been occupied but not in a dense or permanent manner and that occasional cremation burials could fit within such a scenario.

Fourthly, an Iron Age palisaded enclosure replaces the fenced version: it is dated by the presence of Darmsden Ware and it is proposed that the palisaded enclosure has now also acquired a northern field or paddock in the North of Int 48. It is still proposed that something of this Iron Age system was visible (as hedges) to the Anglo-Saxon mound builders some 700 years later, as the coincidence

between mounds, central burials and the trajectory of the enclosure seems unlikely to be fortuitous.

Sutton Hoo's fifth phase is slight on the ground, but ploughing and manuring of fields during the Roman period would best account for the sporadic Roman material collected in superficial levels at Sutton Hoo.

The sixth phase, or 6th - 7th C AD, is of course the zenith of Sutton Hoo's long-lived history and the *raison d'être* of the entire Research Programme. Int 48 has not disappointed its instigator by revealing once again the extraordinary variety of different burial sites carried out, each being unique: quarry pits were dug to build Mound 5 and one of them contained a, probably sacrificial, burial in a coffin. Anglo-Saxon turned and unburned cremations in small pits were revealed by Longworth and Kinnes's campaign of the 1960's. The latter also uncovered a further Anglo-Saxon burial, a disturbed inhumation with grave goods (the so-called "skull pit" with bead and metal object). Mound 18, which had been ploughed flat, was shown to contain a cremation in a bronze bowl accompanied by a composite bone comb. And last, but not least, Mound 17 produced the intact inhumation of a 'prince' with grave goods accompanied, in a separate grave, by his horse.

The post-Saxon events at Sutton Hoo have also left a few traces, some documented on Int 48: during the late-medieval or post-medieval phases, a bank and ditch truncates the western edge of the promontory. It is interpreted here as a hedge and lynchet, perhaps associated with the network of trackways and land boundaries that are still visible as 'hollow-ways' today at Sutton Hoo. More recent (modern) ploughing eliminated some mounds at Sutton Hoo (Mounds 17 and 18) and rubbed down a number of others (Mounds 5, 13 and 14). Finally, in 1860 an orchestrated campaign of excavation (proposed by Carver 1992: 361) took place, perhaps starting with Mound 2: the discovery of a few loose ship rivets (from Mound 2) to the west of Mound 5 - perhaps the next to be 'excavated' - lends support to this theory.

A very thorough assessment of the material assemblage recovered on Int 48 revealed a few weaknesses (in the incomplete recording of pottery and in the pottery typology where grey areas still exist in identifying a Middle? Late? Bronze Age facies, and in distinguishing between Neolithic and Iron Age fine wares; also in the recovery programme as, for example, insufficient flotation samples for macro-botanic remains exist for 'Beaker' pits F90 and F29), but also added some snippets of information which deserve further investigation. Two examples are given here: slag has been noticed as being present in early Bronze Age (late 'Beaker') pits more frequently than elsewhere. An examination of this slag should reveal what process was carried out and perhaps help suggest an artisan function for the large early Bronze Age pits excavated at Sutton Hoo. A second example is provided by the lower horse limb 'dropped' in the top of the Early Bronze Age pit F29: a growing body of evidence points towards horse-sacrifice in 7th C AD. C14 dating should at least distinguish between Bronze Age and Anglo-Saxon horses.

These two 'loose ends' are a pointer towards further work on Int 48, prior to its full publication. However, it is felt that the field report provides a fair assessment of what was recovered and what could be recovered in the Int 48 sample.

5. SELECTED STUDIES: THE PREHISTORIC PERIOD (MRH)

5.1 Neolithic

Only one pit, F116 (in the centre-south of Intervention 48 at c. 088/154) produced a purely neolithic assemblage with some 20 sherds of coarse neolithic bowls and 6 sherds of Mildenhall ware, together with some burnt flint and 14 flint waste flakes. It was not a well defined pit, being the truncated base of a once larger scoop and little of its fill could give an indication of its primary use. It belongs to a family of pits recognisable at Sutton Hoo (the so-called 'pot pits') with concentrations of large parts of neolithic pots: good examples exist from Int. 32, F2/111 etc. (see vol. 8ii, section 5.1), Int. 50, F300-310 (see vol. 7, section 5.1). It seems that such pits are also well-known elsewhere in East-Anglia (Healy 1995).

Pit F116 is by no means the only witness to a Middle Neolithic presence on Intervention 48, since around a fifth of the identified pottery on Intervention 48 has been recorded as being Neolithic (admittedly this may be an overestimate, as some pottery recorded as "Neolithic fine wares" could belong to Iron Age fine wares).

It seems that neolithic ceramic is spread rather diffusely over Intervention 48, without areas of great densities. This may be the product of one or more of the following agencies:

- a. Later Neolithic and early Bronze Age activity being so much more intensive on the site, earlier occupation was disturbed and resulted in the redeposition of Neolithic material in later contexts.
- b. It is certainly possible that Neolithic ceramic styles continued well into the later Neolithic, when Peterborough ware and Grooved ware make an appearance on site. Neolithic bowls may well have endured a long life and may only have petered out finally when new, Early Bronze Age wares (including Beakers) replace them.

5.2 Late Neolithic - Early Bronze Age

An assessment of the prehistoric pottery, together with flint and burnt flint points towards the very end of the Neolithic and particularly the beginning of the Bronze Age, as the period of most intensive activity at Sutton Hoo, Int. 48 being no exception. It is to this phase that the major land divisions, in the form of open linear boundaries (Longworth and Kinnes's Ditch 1, being a series of recent narrower gullies and equated, on Int. 48, to ditches F7/F337, continuing eastwards into Int. 41) are ascribed, but it is stressed that these land divisions continue well into the Bronze Age. A further ditch, in the south-westernmost corner of Int. 48, and seemingly parallel to ditch 1 (F198, consisting of recut gullies F274 and F275 with flanking post holes F276 and F277) is suggested as being part of the same episode, though finds are few. It is the similar construction, frequent recuts and presence of flanking post holes (also seen to the South of Ditch 1 and in Interventions 41 and 50) that prompts a suggestion of contemporaneity. If the two ditches are contemporary, then it may be worth noting a further characteristic, namely that the ditches appear to disregard local topography: indeed, ditch F198 plunges quite sharply down over the edge of the Sutton Hoo promontory into Top Hat Wood, without showing any sign of turning. Disregard for variation in topography would fit well into a model proposing the piecemeal carving up of a landscape also observed elsewhere in prehistoric East-Anglia (Fengate: Pryor 1980: 177.).

Within these major boundaries, plenty of activity took place judging by the number of finds in the buried soils and in features.

Singled out as containing a late Beaker domestic assemblage is a large (4.60m x 3.50m max. and 40cm deep from the top of the subsoil), flat-bottomed pit (F29) in the centre of Int. 48. Likely to contain Early Bronze Age assemblages are further pits, namely F90 in the west of Int. 48 (at c. 62/165), F203 to the south of F29 (at c. 85/153), perhaps the scoop F131 cut by F201 and also, but less certainly, pit F2. Four of these pits have produced, albeit in small quantities, fragments of slag, burnt flint and charcoal, apart from the early Bronze Age datable ceramic and flint finds. Although it is likely that the whole assemblages ended up in the pits as rubbish, it may be worth investigating further the possibility that small-scale metal working took place somewhere at Sutton Hoo in the Early Bronze Age (bronze droplets are also reported from ditch F117/561/571 in Int. 41).

During the definition and excavation of pit F29, a large number of post holes (F23, 26-28, 30, 55, 100-115, 232, 258, 264-5) were noticed around the pit and the possibility that the pit may have once stood within a structure was investigated. Accordingly, all these post holes were excavated. The resulting plan is, however, unconvincing, as the post holes are severely truncated and as it conflates into one phase features likely to belong to different phases (eg some post holes are actually cut by pit F29); different alignments (eg an alignment of post holes heading northwards rather than a circular setting) can just as easily be suggested. That pit F29 stood either within a structure of some sort, or near one, cannot be ruled out, as two post holes (F27, F232) contain probably contemporary assemblages and as 'Beaker pits' tend to be associated with nearby structures elsewhere at Sutton

Hoo (on Int 41 and 55).

Pit F29 remains rather elusive: it belongs to a Beaker horizon; it probably stood in or near a structure; it received domestic debris including waste from metal-smelting. It is flat-bottomed and its sides may have supported a turf growth (context 1049); it received the debris from a hearth (context 1100). It was then backfilled (context 1099), but not quite to the top, or its fill slumped, creating a central depression where wind-blown sand accumulated (contexts 1048, 1049). In this respect, the pit behaves rather like early medieval quarry pits and its superficial resemblance to quarry pits first led to thinking that F29, also F90 and F321, were quarry pits for Mounds 17 and 18. This is not the case. But, to complicate matters further, it is true that pit F29 has an early medieval phase: in the shallow depression filled with wind-blown sand but perhaps still visible as a depression, a horse's lower limb was dropped. This appears to be the only plausible explanation, as horse sacrifice was certainly practised in 7th century Sutton Hoo (see 'Finds Report', below). Horse bones in a Beaker context (as, for example, at New Grange and Lough Gur) would cause considerable excitement, but this is very unlikely here.

In an effort to understand better the sequence of infilling of pit F29 and perhaps suggest a function, a monolith column sample was cut through the fills by C A I French and analysed for soil-micromorphology (see C. French's report Z.2.2 (19), incorporated into Vol. 9).

In summary, the latest Neolithic and Early Bronze Age phase on Int. 48 is characterised by increased activity: the landscape is carved up into land units bounded by ditches, often recut and persisting into the Bronze Age; within the boundaries domestic, but perhaps also artisan, refuse accumulates in a few large pits; structures are elusive but likely to have existed, leaving obscure patterns of very eroded post holes.

5.3 Bronze Age

Sometime during the Bronze Age, after the linear boundaries have gone out of use and before the Iron Age enclosure is built (that much can be ascertained stratigraphically), a strong fence with posts set at 30-50cm intervals is built upon the edge of the Sutton Hoo promontory. A stretch of this fence is visible in Int. 48, in the south-eastern corner, where post holes F34-39, F41 and F99 have been excavated. It is just possible to trace this fence westwards and it appears to turn roughly where the modern western track lies (at around 55/155). Eastward and northwards it can be traced in Int. 44 (where it is cut by Mound 6's robber trench and by the Iron Age enclosure). It then turns northwards in Int. 50 to continue into Int. 41 (where it cuts the late Neolithic/early Bronze Age ditch system) reaching Mound 2, where it clips a Beaker period complex and is cut by a further Iron Age gully. This fenced enclosure is substantial and the posts, driven straight into the sand, must have stood very close together: the aspect must have resembled more a stockade than a fence, and the area enclosed is at least 4800 m², ie 60m wide and 80m and more long.

Why build such a strong fence? Why use so many trees? It is tempting to see greater pressure on land and perhaps a deterioration in the quality of soils during the Bronze Age resulting in a more defensive (even if symbolic) attitude displayed in enclosures. This aspect is by no means the only way of interpreting the Sutton Hoo fenced enclosure: it can be coupled with a greater reliance upon pastoral regimes of subsistence (including the keeping of semi-free pigs browsing in the woodland) as soil exhaustion resulted in podsolisation and, therefore, less arable land. A strong fenced enclosure may have been necessary to keep animals (especially pigs) off-bounds. Within the fenced enclosure, no obvious features leap out as being contemporary with the fence. It cannot be categorically said that no settlement existed within the enclosure, as there are plenty of candidates amongst the unphased post holes and scoops and Bronze Age pottery is common, though rather ill-defined (a weakness of the pottery typology). Outside Int. 48 a few features (on Int. 41 and 44) can be recognised as Bronze Age cremations, which may have been placed deliberately within the enclosure.

Thus, the Bronze Age fenced enclosure at Sutton Hoo allows a large number of choices and permutations in interpretation: the fence may be symbolic, defensive or functional, to keep animals in or out, to protect crops or people, or any combination of these alternatives. The enclosure may

have been empty most of the time or some of the time (eg as a meeting place and/or for gathering stock) but it may have contained a settlement. It could also have been used as an area where occasionally cremations were placed, some turned (at least one in a Deverell-Rimbury urn), some unburned.

There are too many loose ends and the pottery typology is still too shaky to rule any of these alternatives out. But, if pressed, the following interpretation might be put forward as a plausible scenario: the fenced enclosure is partly built "to show off" even if it has a perfectly rational function (say, keeping animals out and delimiting people). The interior was probably occupied but perhaps not in a particularly dense or permanent manner. Occasional cremation burials might be incorporated in such a scenario.

5.4 Iron Age

Problems have been encountered while attempting to interpret the Bronze Age phase. The same problems beset the interpretation of the Iron age phase: there is good evidence for a major structure, in this case a palisaded square or rectangular enclosure and adjacent field boundaries, there is plenty of pottery (associated to Darmsden ware or c. 3rd century BC) but features and structures within the enclosure remain intangible as the ground on Int. 48 has been too severely eroded.

First, the tangible evidence: the enclosure consists of a series of narrow 'gullies' (in fact, palisade trenches); clockwise from the west they are: F172/F56 (= Longworth and Kinnes's ditch 4), F336, (F330?), F284 (= Longworth and Kinnes's ditch 2). Eastwards, the enclosure continues in Int. 41, where it turns under Mound 5 to head southwards towards Int. 44, where it is preserved under Mound 6 to be truncated by its robber trench. In width and length, the enclosed area is at least 40 x 40m (the southern ends peter out as the natural subsoil slopes down and the palisade trenches are not deep enough to 'bite' into the natural subsoil).

The western stretch of the palisade slot (F56/F172) within Int 48 was excavated over its entire length of c. 20m (see drawings D246, 345-347) and quadrantated at 2m intervals with resulting transversal and longitudinal sections (see drawings D242-5, 348-55), with the exception of the southernmost stretch, excavated in plan. The reason for this variable approach was to experiment with the best way of ascertaining whether the slot once contained upright posts. The plan approach was successful, revealing sets of post holes (F271, F279) but no post pipe could be discerned in the opaque soil visible in longitudinal sections.

The palisade trench F56/F172 indeed showed that it was destined to hold sets of posts, in a double row, with posts slightly offset from each other, perhaps to hold planking or a wattle fence. The two best stretches of post holes are F271 and F279, but a few more isolated postholes (F167, 233, 240, 266, 269, 270) may also belong to the palisade or be superficial features fortuitously cut into the centre of the slot. The post holes only barely scoured the base of the slot (cut into soft sandy subsoil) and this may be the reason why no continuous line of post holes could be detected over the whole enclosure (further stretches exist under Mound 5 in Int. 41 and under Mound 6 in Int. 44).

It is also possible that the post or wattle structure was somewhat flimsy (perhaps in the form of pre-fabricated sections of hurdles) and it may have acted as a support for a hedge. The transversal profiles through the palisade trench are rather heterogeneous, some displaying U-shapes, others stepped shapes and others flat bases. This may be partly due to the different skills in excavation and recording of a large number of student trainees who excavated the palisade trench.

The fill of the palisade trench generally consists of a two-phase fill, the lower fill (contexts 1397, 1404) being lighter and poorer in finds than the very characteristic dark brown, finds-rich upper fill (contexts 1108, 1268). A similar two-layer fill was recognised by Longworth and Kinnes (1980: 16 and Fig 9) whose ditches 2 and 4 mark the continuation northwards and eastwards of the palisaded enclosure.

In 1991, during the excavation of the northern part of Int. 48, the palisaded enclosure started acquiring further elements: a N-S dark strip in the north-eastern corner of Int. 48 (F286) is joined

to the W-E running palisaded enclosure (here labelled F284). Although an early medieval quarry pit of Mound 5 (F287) had cut through the junction of these two features and destroyed their stratigraphic relationship, there seems little doubt that the two slots, at right angles to each other and with identical widths and fills are part of the same construction. This then prompts one to re-interpret Longworth and Kinnes's ditch 3 (1980: 16 and Fig 2) as also part of the Iron Age system. The palisaded enclosure has thus acquired a northern counterpart, c. 17m wide, perhaps an attached field or paddock.

In the north-western corner of Int. 48 matters are a little complicated, as the grave in Mound 17 (F318) cut through the corner of the Iron Age enclosure. However, it seems very likely that a short stretch of slot (F336, c. 7m long and with a width and fill again identical to that of the palisaded enclosure) was cut to close a gap in the enclosure, between the western and the northern axes, where Longworth and Kinnes's ditches 2 and 3 are located. The butt end of ditch 3 is unequivocal, but that of ditch 2 butt ends in a curious rectangular slot (F330, cut by post hole F350).

Within the enclosure, no feature can be said to be of certain Iron Age date, through there are plenty of candidates amongst post holes and scoops, as in the Bronze Age phase. Pottery of Iron Age date is not uncommon and the corpus may grow if sherds, perhaps erroneously identified as belonging to 'Neolithic fine wares' and to 'Bronze Age thin-walled wares' but likely to belong to Iron Age wares, are taken into account.

Finally, it may not have escaped notice that there is a coincidence between the trajectory of the Iron Age enclosure and the location of Anglo-Saxon barrows and their central burials: the cremation burial in the centre of Mound 18 clips the western stretch of the enclosure, the burials F318 and F319 of Mound 17 cut through its north-western corner, the cremation burial in the centre of Mound 5 cuts its north-eastern corner and Mound 6 is placed almost centrally over its eastern axis, with its robber trench clipping it. Although this may be wishful thinking, the supposition is further strengthened by the fact that Mound 2 is also placed centrally over a further Iron Age linear feature (F216 in Int. 41 North).

If the relationship between Iron Age linear boundaries and Anglo-Saxon mounds is a real one, then it presupposes that something of the Iron Age system was still visible and had survived ploughing, perhaps in Roman times. This may be stretching the imagination a little too far, as something like 700 years would have elapsed between the two episodes! However, the coincidence seems to be too strong to be explained away as purely fortuitous: perhaps the enclosure survived as hedges, which can last a very long time. If such a proposition is acceptable, then the ploughing episodes may need to be reconsidered: did the pre-Saxon (Roman?) ploughing respect the layout of putative hedges, or is the thin scatter of Roman material not associated with ploughing, but with other forms of cultivation and manuring (vegetation marks, perhaps horticultural or viticultural, as suggested by Martin Carver, have been noted on the buried soil platforms of Mounds 2 and 5 in Int. 41). If such is the case, then the ploughmarks visible on Int. 48 and elsewhere are not Roman but either Anglo-Saxon (ploughing of the surface before construction of the mounds, thus removing the putative hedges) or much later.

6. SELECTED STUDIES: THE ROMAN PERIOD

6.1 Cultivation

The discussion above has already brought us into contact with what might have happened at Sutton Hoo during Roman times and need not be reiterated. Suffice to say that a very thin scatter of pottery thought to be of Roman date has been retrieved from superficial levels and from the tops of buried soils and features in Int. 48 (11 sherds identified so far) and that these findings are in keeping with observations made elsewhere at Sutton Hoo: the buried soil of Mound 2 (F213, Horizon 6, Int. 41), the buried soil of Mound 5 (F224, Horizon 2/4, Int. 41) and the tops of features in the vicinity of Mound 5 (F122, F313, F547, F556, F559, all on Int. 41) have produced sherds of Roman pottery and a bronze fibula. Such a thin spread could be associated with manuring, associated with ploughing or not. If not, then horticulture or even viticulture are likely.

7. SELECTED STUDIES: THE EARLY MEDIEVAL PERIOD

7.1 Mound 17 by M O H Carver; recording by A Roe

7.10 List of Photographs relating to Mound 17

All at 125 x 95mm or less, unless otherwise cited

609/12	Definition of F318, 319 at Horizon 1
611/7	Plough marks in buried soil beneath Mound 17
619/10	F318, section through buried soil
636/4	The prehistoric features beneath F318, 319 and 292
640/13	Excavations at Mound 17 commencing at Level D
641/37	The appearance of F353, the wooden tub, in F318
691/22	Annette Roe
687/6	Annette Roe with Martin Carver
696/4	Elizabeth Hooper
690/28	The British Museum Conservation Team: left to right - Fleur Shearman, Man-Yee Liu, Hazel Newey, Dean Sully
642/14	Stage 1 [A4]
647/17	Stage 2 [A4]
669/10	Stage 3 [A4]
649/15	Stage 4 [A4]
665/6	Stage 5 [A4]
673/2	Stage 6 [A4]
681/12	Stage 7 [A4]
683/15	Stage 8 [A4]
687/12	Stage 9 [A4]
687/15	Stage 10 [A4]
693/4	F358 soil block prior to lifting [A4]
693/2	F358 soil block, without planning frame
691/18	The Berry cradle
648/9	Tools in use
688/2A	The Berry shelter (with Leslie Webster)
685/1A	The Berry shelter (with Emma Carver)
685/23A	The two burials [A4]
691/9	The two burials (with Roy Jerromes and his niece)
690/34	Conservators lift the sword
696/14	Conservators lift the cauldron
696/23	Conservators lift the bucket
696/0	Beginning of the lifting process; end of recording
692/7	Opening F358 in the British Museum; Man-Yee Liu
692/2	Opening F358 in the British Museum; Fleur Shearman and Linda Peacock
701/7	Excavation of F292 in April 1992
707/25	Mound 17 as reconstituted
660/4	Kent Bursom in F319
647/9	F319, Stage 1
652/1	Stage 2
669/24	Appearance of the horse's foot
669/22	Stage 3
673/9	Stage 4
681/6	Stage 6
681/7	Stage 5, with Genevieve Carver
683/5	Stage 6 and final [A4]
690/19	Quadranting of the coffin, Stage 10/11
691/36	Anomalies in the SW corner
690/1	Anomalies in the SW corner

689/32	Anomalies in the SW corner; west end of coffin
696/32	Block F358
690/29	Beneath the coffin, west end
690/2	Section through coffin, SW
696/35	F357, post socket
696/27	Spears
686/24	Cauldron and bucket
691/4	Shield boss beneath coffin
673/10	Spillage beneath 8020 bowl (haversack)
681/14	Ribs in circular anomaly (haversack)
621/20	Shield
680/11	F358 at Stage 7
680/6	8107
680/3	8071
680/9	8109
680/14	8168, 8212
680/1	8110
680/13	8185
689/2	8111
689/0	8185/6
696/28	8185/6 and spear
669/14	Tub, F353
686/35	Comb, 8252
689/18	Comb, 8252
669/12	Coffin clasp [which?]
681/15	Coffin clasp [which?]
691/31	Anomalies at SE end under coffin
690/17	Section through coffin centre, west
685/5A	Emptying coffin, Annette Roe
686/33	Skull
686/11	Body [A4]
686/21	Sword
686/23	Sword (detail)
690/24	'Knife' 8210
686/23	Body
686/32	Purse
652/25	Turf, 7564
652/26	Turf, 7565
641/32	Section through F318, top
601/9	F318, 319 at Horizon 1
701/3	F292 excavated
701/2	F292 before excavation
614/13	Section through F292 where it cuts the buried soil

British Museum Photographs

0774/4	The block F358 before opening
0778/17	The block F3587 after X-Ray
0779/13	BM Stage 1
0785/11	BM Stage 2
0783/3	BM Stage 3
0811/5,14	BM Stage 4

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711.2 Naming of the Parts

F318 - the grave cut

F353 - the wooden tub

F356 - the coffin

F357 - a socket for a square-sectioned wooden post

F358 - the soil block subsequently found to contain the harness

F359 - the skeleton

F360 - a haversack

F 319: horse grave

F 292: Robber Pit

7.1.2 *Discovery*

712.1 Mound 17, together with Mound 18, was first noticed in 1985 by the project director, Martin Carver, during a late-evening game of golf. Balls chipped to the top of Mound 1 from the NW corner of the site were being returned there when that scrutiny of distant and detailed slope and gradient which only golfers know revealed the slight elevations of Mounds 17 and 18, backlit by a westerling sun. The elevation proved too slight to be picked up by the contour survey [at 10cm vertical intervals; *Bulletin* 4, Fig 11, page 15], but was captured photographically (see RR).

712.2 Previous contact: It is likely that excavations by Longworth and Kinnes in 1966 (Int 11) had cut a section through a corner of the partially erased ancient soil platform, which was all that remained of Mound 17.

7.1.3 *Strategy*

Mound 17 was excluded from the excavation sample of the 1986 research design (*Bulletin* 4, Fig 33), included in the modified version of 1987 (*Bulletin* 5, Fig 3) and excluded again from the slimmer western transect of 1989 (*Bulletin* 7, Fig 1) on the grounds that Mound 18 would serve as the representative of a small mound on the western edge of the cemetery.

In the event, Mound 18 had been largely destroyed (7.2, below) and Mound 17 was included once

again in the reinstated enlarged western transect which was dug in 1991 (*Bulletin* 8, Fig 1).

From the evaluation (Vol. 3/4) and earlier excavation in Int 48, Mound 17 was expected to lie stratigraphically below a medieval bank and ditch (8.1, below) and above the corner of an Iron Age enclosure (5.4) and other prehistoric ditches.

7.1.4 *Definition of the Buried Soil and the Features Cutting It*

714.1 Excavation of the enlarged western transect (Int 48, north) began in 1991. Int 11, Area A of the British Museum excavations of 1966, occupied much of the area to be excavated (see N609/12). Mound 17 was contained in the isolated corner of the transect, surrounded to the north by unexcavated strata, to the west by the medieval or later bank and ditch, to the east and south by Int 11.

714.2 The turf over Mound 17 was removed by machine at the same time as the rest of Int 48 (north). The bared surface was not then agitated by machine, but was field-walked and metal detected after which the expected buried soil platform was defined by hand.

714.3 Once the buried soil platform had been defined, three features were visible: the Medieval or later boundary ditch to the west, and two parallel elongated pits, designated F318 (the more southerly) and F319 (to the north) [N 609/12]. A third circular pit, F292, subsequently appeared between them.

714.4 Taking the centre of F292 as the centre of the buried soil platform, the buried soil was quadrantised [N 619/10]. The three central features cutting the buried soil were lowered and recorded in advance, against the quadrant sections, the sections drawn (D400), and the quadrant baulks removed. This was in order to advance the mapping of Horizon 7 (surface of the subsoil) while these major features were being studied. All three features were subsequently excavated from the level of the subsoil. They proved to have been cut into both the late Neolithic/early Bronze Age boundary ditch complex, and the corner of the Iron Age enclosure ditch, exactly as predicted. If the central point between the two large pits F318 and 319, occupied by the small circular pit F292, signified the central point of the vanished mound (as seemed logical) the mound had been placed exactly on the corner of the Iron Age enclosure [N 636/4]. There was no direct evidence, however, that an Iron Age bank or ditch would have been visible in early Medieval times (see below). The buried soil surface had been rendered level and opaque by ploughing, probably in the Roman period [N 611/7].

714.5 It was observed in the section [N 619/10] that F292, the central pit, was later than the two larger features which flanked it (see below). Since neither was central, F318 and 319 (and thus F292) were initially thought to be robber pits dug in search of the burial covered by Mound 17.

Once all three features were isolated at the level of the subsoil (Horizon 7), excavation began of F318 and 319, using standard procedures at Level D [N 640/13].

7.1.5 *The Excavation of the Human Burial, F318: Chronicle*

715.1 The excavation was carried out and recorded by Annette Roe from 15 September to 3 November 1991 [N 691/22]. Her diary (cited as AR; see 3.9.2.1) runs from 15 September to 2 November [N687/6, N696/4]. The excavator and recorder from 2 November was Martin Carver, assisted by Elizabeth Hooper and the British Museum Conservation Team of Hazel Newey, Dean Sully, Fleur Shearman and Man-yee Liu [N 690/28]. Martin Carver's diary begins on 2 November and concludes on 7 November (cited as MC, see 3.9.2.1), with the lifting of the fragile finds en bloc. The blocks containing the fragile finds were subsequently excavated and dissected in the British Museum (Sturge Basement) under the supervision of Angela Evans. The excavation in the field took 53 days not counting initial definition or dissection of soil-blocks in the British Museum.

715.2 On 15 September, Annette Roe gave our reasons for believing that F318 was an

intact burial, the most powerful of which was [N641/37] the circular stain later ascribed to the tall wooden tub, F353. (AR, 2).

715.3 At this point, the recovery level was changed to Level E, the standard procedure for a grave and the strata were recorded in eleven stages:

Stages 1-3 [N642/14, N647/17] show the wooden tub F353 and the emergent coffin,[N669/10] with its iron clasps (D485-490).

At Stage 4 [N649/15] the true width of the coffin was defined and the bronze bowl 8030 had appeared (D491, 495, 496).

Stages 5-7 [N665/6, N673/2, N 681/12] revealed the major groups of grave goods (D492, 493, 495, 497-501).

Stages 8-9 revealed all the groups of grave goods, the coffin base and the skeleton [N683/15, N687/12;D502-4, 506-8].

At Stage 10, the coffin was quadrantred to reveal the finds beneath it, and the section drawn [N687/15; D509, 510, 512].

At Stage 11, the visible natural deposits on the chamber floor were recorded, prior to the lifting of the finds after emergency conservation [N69; D511].

715.4 The excavator used a cradle constructed by Peter Berry, which consisted of scaffold poles bearing on planks supported by sandbags at the grave edge [N 648/9, N 691/18] . It was removed (by four people) for photography. A small version was built for the simultaneous excavation of F319.

715.5 As the weather worsened, the excavation of F318 was provided with a shelter, also constructed by Mr Berry, and made of timber and translucent corrugated sheeting [N 685/1A, N 685/2A] . From late October, working hours were extended with the aid of lighting powered by a car battery.

715.6 All excavation was carried out by hand, using normal tools, spoil was removed by bucket and sieved separately [N 685/5A]. Sieving yielded one early Medieval find, the silvered pendant 8069.

715.7 The excavation records were also normal. All defined contexts were separately numbered and sampled in a standard array from Stage 1 onwards (see 7.1.10 for samples). Contexts denoting backfill or coffin wall appear on several stage plans. As is normal in Level E recording, full colour plans were drawn and colour photography taken at every 'stage'. Planning was located from coloured glass-headed pins placed in three dimensions by remote plotting (see Vol. 10). Also as normal, feature numbers were assigned to any context groups suspected of being structural and the additional feature card generated.

The feature numbers assigned were:

F318 - the grave cut

F353 - the wooden tub

F356 - the coffin

F357 - a socket for a square-sectioned wooden post

F358 - the soil block subsequently found to contain the harness

F359 - the skeleton

F360 - a haversack

715.8 Equally standard, each find (including all samples) was assigned a find number and will be found in the finds index (summary of artefacts belonging to the assemblage in 7.1.10 below).

And also standard for Level E excavation, each find was provided with a finds location record (Y71) and a site inventory sheet (Y723).

715.9 After definition of the group of metal objects and leather straps at the west end (the 'western heap') in Stage 7, it was decided that they would have to be lifted together as a soil block (AR,13). The heap was designated F358, although it was not recognised for what it was (eg visit of Catherine Hills, 20 October [MC 20]) until the dissection in the British Museum. At the same time, the fragile condition of other finds beginning to appear from Stage 7 onwards made technically assisted lifting essential.

715.10 Accordingly, the British Museum dispatched a team of conservators, who arrived on 2 November. Since the operation of binding and lifting the finds and jacketing the soil block would naturally destroy the chamber floor, virtually all recording had to be pre-emptively completed before the conservation started. It was to be a confrontation between recovery and recording.

At the same, time (night 2-3 November) the weather broke in earnest, with 100 mph winds followed by heavy rain (MC 28). The wind had not blown itself out by the morning of 3 November when the final photograph of the human and the horse burials had to be taken together. The tower was very unsafe in the wind, but determined to capture the shot before dismantling began, M Carver recklessly climbed the tower and took the photograph [N 685/23A], but narrowly escaped toppling with it into the grave. The conditions added yet more urgency to the lifting operation, since the interior of the grave was not completely wind-free and the finds were certainly in danger. An emergency application of *paraloid* stabilised the most delicate materials, covering them with a white smear. In a last attempt to photograph the two burials together, the fine blond hair of Roy and Faith Jerome's niece was used to screen the paraloid [N 691/9].

715.11 In the event, thanks to the Berry shelter, no wind or water damage was sustained and, to our knowledge, no finds or potential evidence were damaged, marred or lost. Thanks largely to the expertise, professionalism and charm of the British Museum conservation team, the operation was an outstanding success, and as nearly a perfect match between total recovery and total recording as could be hoped for with our techniques and abilities. Later discrepancies or gaps in BM recording (see below) are not thought to have had an significant influence on the field record or its interpretation.

715.12 The finds were lifted in this order:

- 1 - [N690/34] Sword
- 2 - [N696/14] Cauldron
- 3 - [N696/23] Bucket
- 4 - Rivets of shield
- 5 - Shield boss
- 6 - Spear
- 7 - [N693/2, N693/4] Soil block, F358 (MC, 35b)

Recording in advance of lifting continued at a 'feverish' pace until 7 November, by which time "the lifting operation had rendered the base of the grave unreadable" (MC,35) [N 696/0].

715.13 The soil block F358 was lifted from the grave using the back-actor of a mechanical excavator and placed on a purpose-built platform at the height of the tailgate of a Ford Granada, in which it was transported to the British Museum.

715.14 In the British Museum, the block was immediately X-rayed in Real Time, and the objects observed traced directly on transparent film at 1:1. The block was then transported by trolley from the X-ray machine to the Sturge Basement, where it was opened by the conservators [N 692/7, N 692/2]. A grid was initially set up to record the position of objects, but this was later abandoned in favour of a single tape stretched across the block. The heights were taken with a level. The plan generated from these measurements by Jim Thorne was edited by Martin Carver (RR) who also located it within the site grid and Ordnance Datum by means of six objects recorded in the

Sturge Basement and also on site at Sutton Hoo.

It became apparent during this exercise that the soil block had shifted within its polyurethane jacket, and that finds on the NE corner had been displaced c 200mm from their positions in the field [see 71926.7 below].

During the excavation of the F 358 block in the British Museum, the only records generated appear to have been the plan, sections and certain supplementary drawings, together with photographs of the 4 stages in which the block was excavated. [No written commentary, records, profomae or notes were received from the BM supervisor A C Evans].

715.15 The grave pits of F318 and F319 were covered for the winter [N 701/7, N 707/25] and an excavation team returned in April 1992 to complete the excavation of F292. When this had been done, the area of Mound 17 was backfilled and consolidated. Both operations were supervised by Andrew Copp.

7.1.6 *Analyses for the F318 Sequence*

The records were analysed by Martin Carver in August 1993, drawing on preliminary work by Annette Roe. The principal analyses undertaken were:

- The stratified sequence
- The structure of the coffin, F356
- The structure of the tub, F353
- The composition of the harness, F358

Other analyses to be undertaken were:

- The human skeleton by Frances Lee
- The finds by Angela Evans and staff at the British Museum

The *stratified sequence* included finds, contexts and features and related to the events from the cutting of the grave pits to the erection and destruction of Mound 17.

It endorsed the model derived on site (MC,40) and published in the interim report (Carver 1992, 362) except for:

- the coffin was not a tree trunk (see below)
- the tub lay directly on the 'harness block' F358, and was not put in after backfilling.

The results of the excavation are presented in accordance with this sequence.

7.1.7 *The Excavation of Horse Burial, F319: Chronicle*

717.1 The oval pit F319 was defined at the same time and at the same stratigraphic horizon as F318 [N 609/12, N 636/4, N 680/4]. Excavation began on 12 September 1991 and the excavator and recorder was Kent Bursom until 14 October, at which point Steve Timms took over.

Originally considered to be a robber pit, the data acquisition level on F319 changed from Level D to Level E at the same time as F319 (15 September). At this point, backfill had been removed to a point just below the level of the natural subsoil, against the principal N-S section through Mound 17.

717.2 The feature was then excavated in plan following the normal procedure for burials (Vol. 10) in seven stages as follows:

- Stage 0:** Removal of the upper backfill (yellow sand 1511)
- Stage 1:** [N647/9, N652/1] Definition of 'organic deposits' 1580, 1581 in backfill 1579. These were initially thought to be parts of a collapsed chamber wall (KB Notes 2,3) and then re-interpreted as hay or fodder when the first horse bone appeared on 30 September [N 669/24]. Although extensively sampled (7456 etc.), these stains can now safely be attributed to turf backfill.
- Stages 2-3:** [N 669/22, N 665/3] Following the appearance of the foot of a horse, the body stain (1592) was explored and defined (D447).
- Stage 4:** [N 673/9] In addition to the definition of the horse skeleton (1575) and body stain (1592), a new context was defined, a "consistent yellow stain running from head to front thigh and along body to rear knee". It was given context no. 1593, provisionally interpreted as a rope or halter and sampled accordingly (ST,6) (D450).
- Stage 5 :** [N 681/6, N681/7] The 'rope stain' was discovered to be an integral part of the body stain (ST,7) (D451).
- Stage 6 :** [N 683/5] The horse body was completely defined (D453-7).

717.3 The horse skeleton was left in position for the photograph of the two burials together (above, 715.10). The skeleton was then dismembered and lifted. The bone was in relatively good condition and only the head lost some of its integrity on lifting, collapsing under its own weight (MC, 36).

7.1.8 *Analyses Undertaken for F319*

The horse skeleton was analysed by T O'Connor (see RR.).
Some of the bone was submitted for radio-carbon dating by the British Museum (see RR).
Phytoliths analysis was attempted by Susan Pennington on samples from 1581
No other analyses were undertaken of material from F319.

7.1.9 *MODEL OF THE SEQUENCE*

An analytical account of the episodes comprising the Mound 17 burial rites in the order of their appearance

[For Transcript of site Journals by Annete Roe [AR] and Martin Carver [MC] see section 3.9.2.1]

719.1 Digging the Pits

7191.1 The Buried Soil[N636/4]. Both burial pits were cut through remnant buried soil, and F318 additionally cut through the corner of the Iron Age enclosure which lay below the buried soil, and the Neolithic/Early Bronze Age boundary ditch which lay stratigraphically below that (AR,1). F318 had also cut the line of plough marks which showed in the upper horizon of the buried soil [N 611/7].

Plough marks with the same orientation were found beneath Mound 2 and Mound 5 [Vol 4.6].

There is some doubt about whether these plough marks imply ploughing at the time of the burials. The interpretation of backfilling episodes in both pits as turf makes it less likely. Since no turf line was observed, the most likely explanation is that turf was stripped from the platform to be dedicated to Mound 17 and the burial pit dug from the bared surface (see RR, Ch 10)

7191.2 Digging the Pit F318. The edges of the pit F318 were not easy to discern, owing to its being dug firstly through two backfilled prehistoric features, and then through a series of

unevenly and discontinuously banded natural deposits comprising orange gravel, yellow sand and fine wet black and yellow gravel - the so-called 'sickly grit' [N 691/22. N 701/7 for the prehistoric features and subsoil which were cut through].

Although the 'sickly grit' was attributed to a glacial melt-water channel or underground stream (MC,29), the geology of this local system was not adequately studied. The fact that it was so different from the deep natural strata contacted in the Mound 2 chamber and elsewhere on the site, may account for the unusually good preservation of the bone under Mound 17. In particular, the grit was noticeably damp and sometimes wet. This might be attributable to both burials coinciding with the spring line (see Vol. 9, 6.1.1) or to the fact that the Mound 17 burials were investigated much later in the year (November) than any other excavations at Sutton Hoo.

The 'sickly grit' and its associated natural system were searched carefully for anomalies that might relate to the structure of the burial pits, or activities within it before it was finished (MC,29).

Since the natural deposits were so varied, banded sloping and of contrasting colours, many anomalies were recorded at the base of the burial pit [N 690/19], but none survived testing, the dark smudges generally disappearing beneath the extensive natural bands. An example can be offered by the sequence at the west end, where structural evidence was intensively sought in relation to the harness complex F358. The three photographs N 689/32, N 690/1 and N 691/36 show the dark patches to the south of the harness block in consecutive stages of investigation. The patches occasionally show linearity (NW-SE) but without achieving any clear separation from the natural system. Just before lifting, F358 retains an amorphous dark patch on the south side [N 696/32].

The excavator saw this blotchy dark soil to the south of F358 as "mixed fill with lots of turf" (AR,15) and remarked that it "seems to continue underneath F358". She cut it away (as part of 1576) in Stage 8. In fact, when F358 was excavated in the BM, the gilt-bronze fittings 8168/8182 were reported as lying face down on the sand. Although no detailed descriptions or plans of soils have emerged from the excavations within the British Museum, there is no reason to suspect that a strong dark layer was encountered at the bottom of the block. The excavator later reported that the area south of F358 had organic staining and a thin black "leathery" line, but the stains were so ephemeral that it was difficult to interpret them (AR,19).

MC(33) had similar difficulties in defining any certain linearity in the final stages, and thought some turf at least had been 'kicked in from the west end' (MC,40; N 690/29), but the possibility remained that the persistent dark patch south of F358 was the relic of an organic artefact. The only artefact to be recognised in this area was the iron buckle 8108; an artefact of organic material associated with this buckle is therefore to be tested for. The relevant sample is 8265.

An even more elusive soil 'impression' was recorded at the east end: "towards the bottom of the grave, particularly at the eastern end, there seems to be a brownish very thin lining just before the natural, which could give an impression of a grave perhaps being lined with a cloth before the deposition of the grave goods and coffin" (AR,19). This attractive idea could not be captured in the form of a record, and the possibility remains that this observation is related to the primary wash or trample 1588. Relevant samples are 8290, 8294, 8296 (MC,25b).

The stratigraphically lowest and certainly non-natural deposit was the thin layer of homogenous brown sand 1588, best defined beneath the coffin [N 690/2]. It merged with a stratigraphically equivalent layer beneath the harness block, 1591. It was also equivalent to a more sticky version of itself, initially attributed by the excavator as due to a shield board. "Connecting the shield objects [ie 8277, 8308, 8309] was finer more sticky brown earth which probably indicates the wood/leather of the shield board" (MC,28b). The excavator also noted that this "survives most visibly in the vicinity of the iron" [ie of the shield fittings 8277, 8308, 8309]. The excavator noted later (MC,34,34b) that this layer was coincident with a curve in the natural seam, and therefore more likely to represent tread than a shield board. It can be considered that the brown sand at 1588 was invested locally with migrating iron products from the shield. The sample taken was 8337.

Beneath the coffin (only), the brown sand 1588 was covered by fine buff sand 1587. Elsewhere,

1588 and 1587, if present, were not distinguished from backfill 1572, 1576. The best definition for both these layers occurred therefore beneath the coffin in the centre of the pit, at its lowest point (30.849 AOD). From context 1588 came a single sherd of pottery (8317) stratified beneath the coffin and Roman or prehistoric in date. The location of the brown sand 1588, as known, in a thin layer under F358 and a thickening layer beneath the coffin filling the lowest point of the excavated pit suggests that it could be identified either as rain wash or trample, or possibly both.

The only other context which might belong to the unfurnished grave pit was the post socket F357, situated at the centre of the west side [N 696/35; N 673/2]. It was first recognised at Stage 5 and showed clearly at Stage 6 (D494). The feature was formed by a post 80 x 80mm - 90 x 90mm (3 in) in scantling; the socket formed was filled with dark sand (1586) and survived to a depth of 80mm into the west wall of the grave. There were no signs of timber staining or other traces which might have derived from such a post at any other stage. From the shape of the socket, the post was recorded to have entered the grave wall at an angle of about 10° to the horizontal (MC,35). It is therefore unlikely to have performed as a marker post (feature card). Neither is it likely to have rotted in situ, given the timber traces left by tub F353; a post 3in square should most certainly have left traces in Stages 1-5. A post of this size which had been removed may have functioned as a temporary step or hoist for the furnishing of the grave.

7191.3 Digging the Burial Pit F319

F319 was cut through banded natural and the horse which was buried in it was laid on clean hard yellow sand with no anomalies [N 683/5].

7.1.9.2 Furnishing Burial 9: Outside the Coffin

7192.1 The **spears** (8261, 8191) appeared at Stage 8 and were the first artefacts to be placed in the grave [N 687/12,15; N 683/15]. At first thought to be a single spear, the fact that there were two spearheads fused together by corrosion came to light during conservation. (Technical information sheet, F Shearman). The spear "disappeared beneath the coffin" (AR,19), and was clearly stratified beneath it. A small ferrous nodule (8297) was originally proposed as a ferrule indicating the position of the end of a (broken) spear. 8297 was subsequently shown in the laboratory to consist of compacted sand (pan) and this idea has therefore to be discarded. The spears were lifted without treatment, the most westerly spearhead being physically pulled out from under the bridle heap F358.

7192.2 The **shield** appeared at Stage 10 and consisted of a shield boss (8277), a rivet to the west (8309) and a rivet to the east (8308). Each rivet was elongated and aligned NW-SE in the ground. The top of the east rivet was at 30.899 AOD and the top of the west rivet was at 30.901 AOD, showing that the shield had been laid almost horizontally. The shield boss flange was not located in the ground. A single 'rivet' located beyond the assumed edge of the shield boss was shown in the laboratory to be a small buckle, 8190. A very thin patch of wood stain, 8301, was located near the bucket (8070) and thought to have belonged to the shield board. The grain was aligned approximately E-W (MC,28b). A later note (MC,32b) is annotated "no longer convincing" in relation to this stain. [No result of the identification of 8301 in the British Museum was received]. The elements of the shield were dug out and lifted without consolidation, the boss and (unidentified) buckle being taken together.

The shield certainly underlay the coffin, since the stud of the shield boss had penetrated the decayed wood [N 691/4]. The position of the shield boss relative to the spear made it clear that the shield had overlain the spears. A small patch of ferrified wood on top of the spears ought to have belonged to the shield board [N 696/27]. If the wood stain, 8301, represented part of the shield board, then the shield just undersailed the bucket 8070 (MC,29).

The maximum radius for a horizontally positioned shield was 400mm, which conformed well with limits suggested by the wood patches on the spears and under the buckets. The measurements recorded on the ground were:

Shield boss stud to wood patch on spear: 400mm
Shield boss stud to W rivet: 200mm
Shield boss stud to E rivet: 220mm (MC,34b,35)

This gives a shield approximately 800mm or 31.5in in diameter.

7192.3 The **bucket**, 8070, appeared at Stage 6 and was originally of wood and bound with three iron bands [N 686/24]. It had collapsed under compression southwards towards the coffin. It had been placed slightly over the shield board and lay below the northern edge of the coffin as it appeared at Stage 5 (D492). It was described as "squashed by the coffin" (AR,12). However, this does not imply that the bucket was necessarily placed in the grave before the coffin. At Stage 7 and later bucket and coffin stood apart from each other, and no relative order was implied. However, the excavator reported that the lowest ring was slightly crushed on the southern side, possibly "caused by the coffin being inserted after the bucket" (AR,16). Around the jacket was a bucket of concreted ferrified sand (sampled as 8312). The bucket was bound with plaster of Paris tape before being dug out and lifted [N 696/23].

7192.4 The **cauldron**, 8253, appeared at Stage 7, and contained the small pot 8250 [N 686/24]. The cauldron was surrounded by a jacket of concreted sand (sampled as 8313). There was no stratigraphic relationship observed with either the bucket or the coffin, all three being spatially respectful. However, the excavator reported the cauldron (like the bucket) to be slightly crushed on the southern side (AR,16). Both bucket and cauldron were therefore probably placed in the grave before the coffin.

The relationship between the ceramic pot (8250) and the cauldron was mysterious. The most likely explanation is that the ceramic pot was placed on something solid already in the cauldron, for example grain. The materials within both pot and cauldron were examined in the British Museum laboratory, but no positive/negative report has been forthcoming.

The cauldron was extremely fragile on discovery (AR,16) and was consolidated with plaster of Paris bandage before lifting [N 696/14].

7192.5 The "**Haversack**", F360, comprising **drinking bowl** 8030, **animal ribs** 8072, **animal ribs** 8251, **textile** 8068 and **ephemeral soil stains** (samples 8080, 8098, 8099, 8232, 8233, 8273, 8274, 8278, 8298).

The bronze bowl, 8030, appeared at Stage 4 (AR,8) at 31.26 AOD [N 649/15], and showed well clear at Stage 5 [N 665/6], well above the level (stage 6) at which cauldron and bucket first showed [N 673/2]. It was therefore either placed in the grave when backfilling had already commenced - in which case it was the only one to be so treated - or it was supported by some other artefact.

When the bowl was lifted, between Stages 5 and 6 (AR,11), underneath it was "a concentration of fibrous material preserved by its contact with the bronze". This was initially identified as textile (8068). At the same time, two rib bones (8072) of a small animal (sheep?) were revealed (1) under the bowl and (2) between the bowl and the grave wall (AR,12). One end of the soft bone emerging from behind the bowl was mistakenly trimmed with scissors in the belief that it was a root (AR,12). The bowl had tipped, as though to empty south-west and immediately to the south was "greyish stain which looked almost like something spilled from the bowl" (AR,12); sample 8080; polaroid in AR opposite page 12 gives the position of the spillage; N 673/10 shows the patch left after removal of the bowl, together with one rib).

There was no sign of the bowl having, or having had, any contents (L Peacock, Site Inventory). On the underside of the base, the initial colour on excavation was "dark green at the the rim, brighter green on the curve and pale green at the centre of the base where rotted organic materials appear concreted onto the surface. The base rested on a pad of textile (8068) with bone (8072) which may explain the pale green concretion. It may be a mixture of copper salts, rotted soft tissue from the bone and rotted textile fibres. Find 8068 [is] an example of the the same material but much better preserved. On the SW face are traces of grass or roots (?), some kind of fibrous material. All over

the bottom of the bowl, though quite randomly spaced, are small circular concretions, white in colour, of 6mm diameter. Could these be from worms or maggots, if meat rotted from the bones?" (L Peacock, Site Inventory, 8030).

After the removal of the bowl 8030, textile 8068 and ribs 8072, the grey stain persisted lightly in this area in Stage 6 (D494).

At Stage 7, the stain became stronger [N 681/12], and three more rib bones appeared N 681/14;D499]. At this stage the case for a soft container was initially presented. The greyish stain (sample 8098) contained in Stage 9, "although now somewhat larger it is surrounded by a brown organic-looking stain (8099) and contains a further three rib bones [8251; height 31.02 AOD] which should be associated with 8072 and constitute a food offering. However, the different levels make it necessary for these items, perhaps including the bowl, to be contained in something. So far the staining is difficult to interpret." (AR,14).

At Stage 8, there was "still a darker patch, but it becomes less convincing and the greyish sand that was around the bone disappears" (N 683/15; AR,16).

At Stage 9, to the east of the cauldron "there is a dark, almost black, concentration on the natural bottom. This concentration of small black patches coincides with the position of the staining round the meat and bowl higher up and may possibly be the stain left from a leather bag(?) which could have contained all the food offerings.the natural subsoil does contain blackish lenses, but these are slightly more convincing as organic stains" (AR,19; N 687/12).

The anomaly was still detectable as "brown earth with a clay component" at Stage 10 (MC,29; N 687/15;N 691/20). The stain-zone was subsquare, with a dimension (diameter or width) of 320mm. It was reported (MC,29) as lying 230mm below the impression of a rib (=8072) still visible in the grave wall (at 31.26m AOD). The base of the 'bag' was later recorded at 30.751m AOD, ie 0.25m below the section line (MC,29b). This is clearly incorrect, since the natural in the N-S section is at 30.900m AOD and the 'bag bottom' in the N-S section is a millimetre or so higher.

The maximum height of the bag from the records is therefore 31.32 (height at Stage 2) - 30.90 (height at Stage 10) = 420mm.

These observations suggest a tubular bag of textile or leather (like a kit-bag) with a diameter of c. 320mm and a length of about 420mm. The bag contained (at least) some meat chops and a (drinking?) bowl. It must have contained several other solid, if ephemeral, objects to give it rigidity during backfilling, when it remained upright. The slicks of grey sand are most likely to have been formed by fine sand filtering through the neck of the bag to fill the cavities created by the decayed meat, bread, fruit or vegetables.

The search for evidence from samples for the original material of the bag or its contents in the British Museum has produced no report.

7192.6 The location of a **Harness** at the west end was inferred beneath the stain of tub F353 (1582) after the recovery of a small silvered axe-shaped pendant 8069 by routine sieving of backfill context 1572 on 16 October during preparations for Stage 6 (AR diary, 6/3.921). Subsequent glimpses of metal and dark strips of soil in the same area showed that there had been a concentration of small objects there, perhaps connected by leather straps. The area was defined as context 1589 although this was scarcely distinguishable from the surrounding backfill [see N 680/11], and planned (D509) at Stage 10 as F358 before lifting as a block.. AR noted that "Several other pieces of iron were visible as well as a tiny bronze pin in (?) leather [8107; N 680/6] and a complicated composite object of iron, wood and gilt bronze [8071; N 680/3]". That 8069 was an end or pendant for a leather strap was confirmed in the finds hut (L Peacock, Site Inventory). 8071 was also lifted and identified as "part of a bridle ... possibly" (L Peacock, Site Inventory). The bronze pin (8107) was also lifted, together with an iron buckle (8108).

F358 was scarcely distinguishable from the backfill [N 680/11], and in practice this uncertainty of

boundary continued until the time it was lifted. Although it was assigned three context numbers: 1589, 1590 and 1591 (MC, 35), no distinction was observed between 1589 and 1572 (the backfill), or between 1591 and 1588 (the tread or wash). 1590 was a device for describing that particular ambience created by decayed leather and other materials: cavities, packets of sand and grit, preferential colonisation by the roots of plants.

In practice, therefore, F358 was defined only by its population of finds: small objects of metal connected by dark fibrous strips often formed of tiny roots.

During Stage 7 [N 693/2], the area of F358 was further defined and thereafter reserved for lifting en bloc (AR,13). The finds visible on site were:

An **iron buckle**, 8109 [N 680/9]

The **silvered axe-shaped pendant**, 8212

The back of a large **gilt-bronze axe-shaped pendant**, 8168 (with leather straps visible; N 680/14]

A **small buckle** 8110 [N 680/1]

A **gilt-bronze axe-shaped pendant** 8185 and **disc** 8186 [N 680/13; N 689/0]

The **strap-end** 8111 (which was at the NW corner of the coffin at Stage 7; see polaroid, AR,13; N 689/2)

The **large buckle** 8318

These finds remained in the ground and were planned (eg D506) and levelled, so that there were 7 objects with which to locate and reconcile (to the site grid) the plan that was subsequently made in the British Museum when F568 was dissected. This showed that there had been some movement within the block after lifting (see below).

The excavators recorded that the grey 'coffin-flap' at the west end "may overlap the finds complex F358" (AR,13; N 689/32); when removed this coffin-flap "came away" from the face of F358 (MC,33). Find 8071 was also recorded as being "crushed against the corner of the coffin" (AR,11).

The harness lay on top of the spearhead which was pushed "beneath a leather strap and over a layer of dark grey earth [1591]" inside F358 (MC,35). The photograph, N 696/28, also shows disc 8185 and pendant 8186.

On arrival at the British Museum, the soil block was X-rayed in real time and the relative positions could be noted for:

8207(No.1); 8206(No.2); 8185/6(No.3); 8168/8182(No.4); 8318(No.5); 8212(No.6); 8176(No.7); 8204?(No.8); 8111/8178 group (No.9); 8213?(No.10) [BM 0779/4, 0778/17]

At BM Stage 1, the surface was cleaned [BM 0779/13]. At this point, Find 8109 appeared to have rotated through 45° with respect to its position in the ground (NE-SW). (Note also the hole in the block at BM Stage 0, on photograph 0779/4. Buckle 8318 remains in its correct position in this photograph.

BM Stage 2 revealed the bit, 8173/4 [BM 0785/11].

By BM Stage 3 the disentanglement of the 8173, 8185 and 8178 groups had begun [N0783/6] but, oddly, there was still no sign of 8185/8186, the disc and pendant which had been seen and photographed on the ground [N 689/0].

When it appears, in BM Stage 4, the pendant 8185 seems to be almost vertical and crushed against

disc 8186 [BM0811/5-14]. Some additional impression of soil movement is given by the loose soil visible in the NE corner at BM Stages 1-3. This soil movement, if real, may possibly have occurred on the site. MC (35b-36) records that F358 was isolated and coated with polyurethane foam under chicken wire, undercut with a steel plate and turned over by hand. "There was some loss in this operation to the east end, where a cavity 30mm wide by 40mm deep appeared along the whole eastern edge; one Fe object was exposed at the south end of the cavity [8177?]. The operation was therefore 90% successful".

At BM Stage 1-2, a ring of dark soil, radius 115mm, was recorded in the NW corner. [No photograph received]. This can be attributed to the base of the tub F353 (see below).

A number of dark lines invested with rootlets and attributed to leather was observed, the most persistent joining the 8173 group (bit) to the 8186 group (brow band)[BM 0811/5].

[Note: No written report of this excavation had been received at the time of going to press, November 2004]

The Bridle complex is interpreted as having four main components: a saddle of wood and leather, a bridle with gilt-bronze pendants and strap distributors, a martingale with bronze three-way distributor and body harness with silvered connectors and pendants.

A reconstruction of these items of harness was attempted by MOHC with the advice of Penny Watts of Kings Saddlery, Grange Farm Barn, Hasketon, Suffolk. Other authorities used were:

Jane Holderness-Roddam *Fitting Tack and Mouths and Bits* [Threshold Picture Guides Nos. 4 and 15, Kenilworth Press, Addington, MK18 2JR] and A Norris and N Pethick *Harnessing Up* (J A Allen, 1 Lower Grosvenor Place, London SW1W 0EL).

A reconstruction by A Evans appears in the RR.

7192.7 **Wooden Tub**, F353. [N 641/37]. This object, like the "bag" (above) was never recovered, being inferred only from soil stains. It was one of the earliest anomalies to be recorded, being noticed at Stage 1 as a circle of dark earth about 500mm in diameter, "slightly less than 1 metre" below the defined edge of the grave pit F318 (AR,1; N 642/14).

It remained as a strong soil mark until Stage 4 [N 649/15] and was largely excavated in three dimensions to that point, the dark sand wall of the tub being left standing. The excavator reported that it held together well, "a fairly solid black sandy stain" (AR,5). Inside the tub the sand was redder, which probably indicated iron compounds from the iron object 8109 which lay below.

At Stage 4, the excavator believed she had found the base (AR,8; N 669/14) and took a sample in the hopes of identifying the wood (8024). The diameter at this point (31.32 AOD) was 46mm (externally) (Feature card).

However, a "darker stain, probably still discolouration from the tub" was still visible after Stage 5. (AR, 9).

The circular stain and wall F353 was interpreted as a wooden tub. It was found to lie directly above the "harness complex" F358. Initially, the two were thought to have been separated by a backfill, giving rise to the conclusion published in the interim report (Carver 1992, 363). However, when the soil block from F358 was dissected in the BM, a circular soil stain 115mm in radius was recorded in its NW corner, the centre of the circle being coincident with the iron object 8109. This stain could be attributed to the tub F353. If so, the shape will be situlate. It might also be inferred that object 8109 lay inside such a tub.

7192.8 The **comb** was first contacted (as a rivet, 8090) in preparation for Stage 6, "30cm to the west of the bucket [8070]" (AR,12; N 696/35; N 689/18). The comb itself emerged in preparation for Stage 7 and was allocated the number 8252. It was "sloping down almost vertically.

This should mean that it's sitting in something, but there is no sign of any vessel" (AR,14).

In preparing for Stage 8, the comb remained vertical, clad in backfill and the excavator remarked "it seems likely, in the absence of any container, that it had been placed on top of the coffin and had slipped off, landing end-down in the sand leaning against the coffin wall" (AR,16).

This interpretation was supported by a little diagram (AR,16) which shows the comb leaning against a hypothetical position of the north coffin wall. The interpretation was also fuelled by our then current belief that the coffin was cylindrical (a tree trunk) and therefore curved on its north side, an interpretation published in the interim report (Carver 1992, 363; AR,18). There was some doubt that the coffin was cylindrical (see below 719.3), its profile suggesting rather a trapezoidal box; [although the final verdict returned to a tree-trunk, see RR].

At the point adjacent to the comb, the coffin wall had a profile that was almost vertical, at least for Stages 2-7, and the comb positions at Stage 8 and Stage 7 and the rivet 8090 are all in a straight line. The geometry allows the same model for the arrival of the comb against the coffin wall to be sustained for a round, rectangular or trapezoidal coffin.

At stage 7 [N 687/12], the base of the comb was recorded at 30.95 AOD, some 50mm higher than the coffin base bottom at that point. At Stage 9, when the coffin base was defined and the base of the bucket, the comb remained supported on a platform of soil (so that it could appear in the photograph). The comb therefore arrived in its final position after backfilling had commenced and the soil beside the coffin was about 5cm (2 in) deep). Assuming the coffin was flat-topped, and the comb lay upon it, it was more likely swept off by the action of backfilling (eg from the south). The finds location record describes the position of the comb as found as "nearly vertical". The stage plans 7-8 suggest that it was leaning at about 60° towards the south, an attitude confirmed by the photographs. These data are consistent with the comb having arrived accidentally. Its original position can be postulated as being on the coffin lid, approximately over the chest of the buried man.

719.3 The **Coffin** (written with assistance from M R Hummler).

The form of the coffin was determined from the staining it left in the sand [N 685/5A]. Recoverable wood survived only a small isolated fragments in contact with metal objects (eg 8262 in contact with Sword 8264). The wood has been identified as oak (*quercus* sp) heartwood (and thus unsuitable for C14 dating; information J Ambers, British Museum).

The stain was persistent from Stage 1. It was rectangular in plan and in colour varied from brown and yellow in Stage 1-2, to black in Stages 7-9 when the coffin base became visible (D485, 487, 489, 491, 492, 494, 499, 502).

At Stage 2, four iron clasps (7560-3; N 669/12; N 681/15) became visible and they remained to Stage 4, a vertical interval of 100mm (AR,7). The clasps were situated on the outside of the coffin stain, were set vertically and curved inwards. The northern clasps (7560, 7563) are "flat rectangular bands, smoothly curved in section" and have two nails at each end "evenly spaced and symmetrical" (L Peacock, Site Inventory). There was an additional nail (8022) adjacent to clasp 7561 (SW), but not part of it. (L Peacock, Site Inventory). Clasps 7561 and 7562 (SE) were angled in section, rather than curved (L Peacock, Site Inventory). Examination in the British Museum laboratories provided no report.

The clasps were arranged north and south in two pairs, but each was neither symmetrically distant from its adjacent partner nor opposite its opposite partner. As measured from its stain, the coffin as discovered varied considerably in width (Table 1) from an average 550mm at Stage 1 and 9, to more than 800mm in Stages 2-4. This variation was observed by the excavators and, together with the curved clasps, gave rise to an interpretation of the coffin as cylindrical, deriving probably from a tree trunk (AR,18).

The soil pattern at Stages 1,2 was a swirling pattern confined to the coffin area, which originally suggested heavy bark (AR,3). The same interpretation was given to the yellow or buff sand 'jacket'

(1578, 1587) which accompanied the timber line from Stage 3 and was present beneath the coffin base (MC 25,30).

At Stage 2, some of the wavy lines of dark soil spilt over the northern edge, prompting the suggestion that they were "straps for lowering the coffin" (AR,6).

At Stage 7, the edges of the coffin were reported as hard and black (AR,14). The coffin was reckoned to have "bulged as it rotted", pushing into the bucket and the cauldron (AR,16).

At Stage 8, the coffin was "45cm wide at the west end, 68cm at its widest towards the east ... the hollowed out part is 2.40m long and the bottom has a few holes where yellow sand (1578) shows through ... the sides curve in fairly gently and the base is fairly flat" (AR,17).

Two plank-like soil stains were visible at Stage 4 between the coffin and the south grave wall; they had vanished by Stage 6 and were barely detectable at Stage 5. (These are unlikely to be part of the coffin because the clasp 7561 separates them from the coffin wall).

As excavated in Stages 9-10, the coffin base was generally 10mm thick, but 30mm thick on the turns and 20mm thick on the vertical walls [N 690/17]. "Since the thickness [of the base] depends on the amount of excavation and since the bones [of the body] are generally perched up, the true thickness is likely to be nearer 20mm in both walls and base" (MC, 25). This is also the thickness shown in the Stage 6 plan when the coffin wall was strongly marked, but the base had yet to show. There is nowhere the thickness which would be appropriate to a hollowed out tree trunk.

Analysis of the field records consisted of inspecting the photograph at each stage, and compiling a three-dimensional image of the coffin stain from the stage 1-9, plans and heights and from the section at Stage 10. The result does not support the idea of a tree-trunk coffin, but of a coffin constructed with oak planks about 1 in. thick.

The original form, however, is by no means simple to ascertain. The following observations constitute the basis for the reconstruction:

1. The base is flat and of uniform thickness E-W (lengthways). The E-W profile curves up to north and south (widthways) with no visible join. The search for pegs led to the only anomalies visible beneath the coffin angles, small dark patches in the SE corner which were recorded but "none was convincing as anything other than natural" (MC, 30; N 691/31).

2. The N-S profile is nowhere circular. The general trend is an abrupt splaying outwards from the level of Stage 7, and an abrupt splaying inwards from the level of Stage 4. In many cases the position of the stain from Stages 4-7 is linear, suggesting a single plank of wood. In the case of the coffin wall adjacent to the comb it stood nearly vertical, although displaced to the north. Whether sloping or vertical, the vertical width of the wall implied by the stain from Stages 4-7 is 200mm.

However, at Stage 6, the wall on the south side is split, the bulge taking dagger 8259 outwards with it (AR,12). In stage 5, the north wall is split. This alternative positioning for the wall could represent two decay positions for the same plank; but this is unlikely given the position of dagger 8259 which have had to pass through the inner stain and would have affected it in some way. Therefore these black lines should represent the position in which planks, whether broken or intact, had achieved equilibrium after any initial movement due to backfilling and decay. The black lines are therefore taken to represent the coffin wood in its collapsed state.

3. The bottom of the original clasps occur at the level of Stage 4, so it is presumably at this point that the coffin was closed and the bottom half joined with the top. There is no hinge and each clasp is nailed in position asymmetrically, two on the north side and two on the south. On the basis of extant heights in the ground, the clasps occur well towards the top of the total height. This suggests a lid, rather than two halves of a bisected tree trunk. On clasp 7560 (NW) 3 out of 4 nails (including the bottom two) were broken. On clasp 7563 (NE) one nail was fractured (top). On

clasp 7561 (SW) two nails were broken (the bottom two). In clasp 7562 (SE) the condition of the nails was uncertain (L Peacock, Site Inventory). The curvature of the clasps is not uniform. These factors suggest that the curvature of the clasp may be (partly at least) due to collapse rather than design. The fracture of the nails must certainly be attributed to the force of loading by backfilling.

4. Above the level of Stage 4 there is a marked difference in the way the presence of the coffin is signalled. Strong black lines are rare and discontinuous (eg on the SE, SW and NW at Stage 3). Nevertheless, the position of the clasps shows that even brown or yellow markings can directly indicate the position of coffin walls at Stages 3 and 2. The colour of the brown soil attributed to the coffin limits is also close to that of tub F353, confidently identified as of wood (see 7.1.9.2.7 above). The dimensions suggested by the plans at Stages 2 and 3 have therefore been included.

The soil mark defined at Stage 1 emerged as a flat and rectangular impression during fine cleaning of the layer in which the circular feature F353 had already been defined (AR,2,3). It was then improved by further cleaning for Stage 1. The decision to switch to Level E, as for an undisturbed burial, was taken therefore before the soil mark attributed to a coffin had emerged in cleaning (AR,2). There is therefore a strong indication that the first contact with the coffin was a horizontal rectangular plank. The Stage 1 stain measures 2.70m x 0.55m and is coincident in plan with the coffin base (Stage 8).

However, had this been itself the staining due to an in situ lid of the coffin, it should have disappeared during the preparation for Stage 2, giving way to the stains due to the vertical walls. Instead, it was still present in roughly the same form, with the same dimensions, in the same position in plan in Stage 3. This suggests that the Stage 1 rectangle is not itself the lid, but the vortex created by the rapid descent of the lid to at least the level of Stage 3. Its point of rest may be determined by wood stains from Stage 4 downwards. The most positive of these stains should be the strong wood stain including preserved wood inside the south wall at Stage 7. This is unlikely to be coffin wall, since the wall is still there, and it lies on top of the sword, so cannot be part of the base. At Stage 6, there are "inner loci" at the NW, NE and SW attributed (above) to splitting and other woody patches. Similarly, there is an inner locus on the north side in Stage 5.

Supposing that all these traces belong to a lid, it would have to be domed or gabled, with a height of 100mm in the centre, or 50mm if only Stages 6 and 7 preserve its traces.

5. The profiles all suggest that the coffin walls splay outwards and the problem is to decide whether this represents an original feature or a result of the collapse. The collapse model requires that the coffin lid should fall vertically under the weight of soil and the sides splay as a result, bending clasps which were originally straight. This is not impossible; it requires that the quantity of the spoil above the coffin was, at a given moment during backfilling, greater than the spoil already backfilled beside the coffin. Once the spoil was compacted beside the coffin, it would take a very great deal of force to push to side to an angle of 20° or more from the vertical.

The profile of the coffin base suggests that the splay actually begins very near the base itself. At the mid point embraced by the clasp, at Level 4 or 3, the coffin wall changes direction markedly, going inwards. The collapse model would here require that the sides were pushed outwards for the lower 200mm of their height and pulled inwards for the upper planking. A lid descending by virtue of a vertically applied force would be unlikely to do this. The inward splay would have to result from soil pressure alone. In this case it is hard to see why soil pressure should result in the walls splaying outwards below the clasps and inwards above them.

A simpler explanation is that coffin was splayed when built, both in its upper and lower halves. The lid fractured at a height equivalent to Stage 2, the main piece, about 500mm wide, descending to the level of Stage 7 and creating the soil vortex seen in Stages 1-4. Given that Stage 1 remembers the position of the lid, vertically above the coffin base, it is likely that the south wall and its lid fragment did splay further out to the south than to the north. The fractured lid arrived on top of the body, coming to rest on the sword where it survived as 8262, and flattening the skull.

An angular shape for the plan of the coffin can similarly be argued. The east and west ends were consistently narrower than the centre (Table 1) and appeared to feature extensions (called "coffin-flaps" in the records), which were seen as the ends of the coffins, "burst" outwards. As suggested above such "bursting", although not impossible, would imply a very uneven loading of the spoil during backfilling. The east end was never very well defined, even at its base (MC,30), but such readings as are secure show a double splay, the lower part outwards, the upper part inwards, with a change of direction at Stage 4 like the sides. This same morphology is much clearer at the west end. The change of direction here is at Stage 5. At Stage 3 there is a fracture, with another change of direction to the vertical. This may be read as a soil vortex rather than wood.

The 'coffin flaps' were trapezoidal, a shape echoed at the coffin ends at a number of stages. The west end was clearly trapezoidal at Stage 5 and Stage 9, while a trapezoidal east end may be seen in Stages 5 and 6. The character of the western 'flap', grey sand, worried the excavator on dissection (MC,30). However, it might be explained either as the soil shadow cast by a timber piece which originally leaned outwards and collapsed flat; or as a part of the lid which descended vertically from a position equivalent to the soil mark in Stage 1. This would account for its being higher than the coffin, but does not explain why there was no west end wall underneath it.

The geometry of the stain as recorded in the ground argues therefore for the modern angular style of coffin. It did not "burst" but the lid fractured along approximately the joint of the flat top to its sloping sides, or just below it, descending onto the sword but not crushing the body thanks to its mansard profile.

The 'sand jacket' (1578, 1587) may be read as a product of the sloping sides, particularly beneath the overhang from Stage 4 onwards, where initially less compact sand would allow cavities. The timber would also constitute an impermeable barrier for drainage for a number of years, encouraging water sorting of sand particles next to its surface. This would presumably be true of a vertical wall too. The overhang can also be cited as a possible cause of 'double lining', eg at Stage 6.

The coffin was laid on the trampled (1588) but uneven surface of the grave floor and on top of the shield boss (AR,17). The uneven surface of the floor meant that this did not result in the coffin being greatly canted (the base on the north side is little more than a millimetre above that on the south as measured).

However, the coffin may have settled, embedding the shield boss stud deeply in the wood and forming a bulge around the boss itself as the wood softened in decay. In the meantime, fresh sorted sand may have entered the cavities beneath the coffin (1578, 1587). Another possible explanation for the sand 1578, 1587 is that it represents replacement for wood rotted in situ. If so, it implies that the outside of the coffin rotted while the inside did not - an unlikely circumstance.

719.4 Inside the Coffin

7194.1 Anomalies associated with the shape were not resolved into recoverable artefacts and are thought to be organic or parts of the backfilling (see 719.5 below). The materials inside the coffin [N 686/11] were located with certainty only at Stages 8 and 9, argued (above) as being below the collapsed coffin lid. The skeleton [N 686/21] was described as "c 1.70m long from head to heel ... lying with head to west, looking northwards ... the body... disturbed to the south. This is most likely due to the rolling of the coffin when it was placed in the grave" (AR,17).

7194.2 The **skeleton** was in relatively good condition and astonishingly well preserved for Sutton Hoo, although the skull had been crushed and flattened, presumably by the coffin lid. The clavicles and ribs were missing and the left humerus much decayed. Parts of the vertebrae were spongy "almost body stain" in the middle. The feet were "almost all body stain and have points to them reminiscent of soft pointed shoes. Only the ?heel bones survive". (AR,18)

7164.3 Over the right-hand arm and pelvis of the body lay the **sword** (8264; N 686/28) in a wooden scabbard, "the pointed end dipping slightly as if it were broken ... the pommel at the western end is made of iron with what looks like wood or perhaps bone or horn. The top of the

scabbard is studded together with a bronze pin (similar to 8107). On top of the sword is the piece of preserved wood (8262) first seen at Stage 7 which appears to be some object although unidentifiable [identified as coffin lid, see 7.1.9.3 above]. Peeking out from underneath the sword is a small bronze decorated object shaped like a square cylinder [sic] which probably served to attach it to a belt (8263)". (AR, 17, 18).

The sword complex was lifted en bloc (see 7.1.7 above) and later dissected in the British Museum. The **wood piece** 8262 covered a **buckle with garnet inlay** (8196) and a **pyramid** 8263, together with **textiles** 8198, 8194, 8193. **Textile** 8192 and **leather** 8195 were in equivalent positions. Underneath the sword was a second **pyramid**, 8166, a **bronze strip with garnet inlay**, 8197, and a small **silver buckle** 8171. Part of the coffin base had also been preserved beneath the sword and due to contact with it (8163).

The sword and its associated artefacts were excavated in the British Museum, whose staff however have offered no report on the process.

7194.4 Beyond the tip of the sword was "another iron stain, possibly showing through from some object under the coffin, since no metal is visible at this stage" (AR,18; N 690/24). This was lifted as a "**knife**" find no. 8310, and sent to the British Museum, [from whom no report was received].

7194.5 "**Dagger**" 8259 was recovered from between two lines of the coffin wall or lid to the SW in Stage 6. At first thought, by virtue of its position, to be a hinge or fastener, it was later identified as a dagger in a wooden sheath. It lay parallel to the handle of the sword, with its own handle to the east, blade to the west (ie in the opposite sense to the sword). The tang of the handle lay 60mm above the sword and the blade tip 140mm above the sword. The cutting edge of the blade pointed downwards (finds location record).

7194.6 The **purse complex**, 8257. Adjacent to the back of the skull [for position see N 686/23] was a tiny **bronze decorated ring** (8260) with the coffin wood preserved where it touched (AR,18). A little further E, adjacent to the neck of the skeleton was a D-shaped concretion [N 686/33; N 686/32], described during excavation as follows: "woody (bone?) ... with whitish paste; and a hard lump like glass slag! However, at the eastern end there is a little bronze showing and a flake of garnet [8256] and a flake of mellifera [8266] come from this object (8257). It is possible that there is a brooch face-down and that the D-shaped part is in fact part of F359's shoulder blade. There are no other finds - not even a buckle although other things may have slid under the sword" (AR,18).

This object was identified on dissection in the British Museum to be an iron pursement or possibly a firesteel/tinderpouch, the complex being composed of leather, wood and textile. "In the soil lifted with the purse were a copper-alloy buckle and seven loose garnets. A beak-shaped piece of garnet and a small piece of millifiori glass were retrieved on site during the excavation of the area around the purse. It is presumed these items were enclosed in the purse when deposited in the grave. A flint-like stone was also found in the soil lifted with the object but it may be of no significance". However no report has been received from the BM.

7194.7 There were no other anomalies inside the coffin.

719.5 Anomalies in Backfill, possibly associated with the Burial or the Burial Rite

7195.1 At Stage 1, there were visible the **circular tub** F353 and the rectangular shape which signalled the coffin already discussed in 719.4 (above). Additionally, there were a circular patch on the south side and an elongated slick on the north side (AR,3,4). These both had disappeared at Stage 2 and are attributed to backfill. A circular stain with a dark centre at the east end of the coffin was also noted (AR,4). It had disappeared at Stage 2, but overlay a silty patch, oval in shape, which was strongly marked at Stage 4 and was present at Stage 3. This anomaly gives the impression of a cavity filled with silt. The circular patch at Stage 1 appears to belong to a chain of swirling 'vortices' over the area attributed to the coffin lid. It is argued above that this area is not the lid

itself but a pattern of soil vortices created by the collapse of the lid onto the coffin base.

Nevertheless, this stage was axially sampled (7517-7530) (AR,4) against the possibility that these examples required further investigation. At Stage 2, the anomaly on the north side against the grave wall showed some shape and was provisionally interpreted as ropes or straps or cords for lowering the coffin (AR,6). They persisted into Stage 3 and were sampled as 7550 and 7566.

7195.2 At Stage 2/3 also were two organic lumps, 7564 and 7565, both most likely to be backfilled turfs (AR,7; N 652/25-26).

7195.3 At Stage 4, anomalies on the SW side suggested planking (see above, 719.3), which are also more likely to be turf, in spite of their (fleeting) linearity. There was also a "possible faint organic stain towards the south" recorded in a polaroid while preparing for Stage 5 (AR,9), sampled as 8043.

7195.4 If Stage 6 represents the level of the collapsed coffin lid, there are a number of anomalies which might represent the lid or the remains of something placed upon it (always allowing for any of them to be explained rather as backfill). A mottled patch towards the west end inside the coffin was sampled as 8080 and 8083 and will be the prime targets for a floral tribute. A square patch of possible wood was sampled as 8089. Samples 8093, 8096, 8102, 8106 are all from possible residues carried down by the lid.

7195.5 At Stage 7, other targets for residues over a collapsed lid would be 8248, 8247, 8241, 8240, 8238, 8237, 8235, 8234, 8226 and 8225. In general, the removal of this sampled soil after Stage 7 exposed the body and the wood from the lid together. But at Stage 8/9, there was one sample from yellow sand that could be both under the lid and over the body, 8249; and another adjacent to the head 8322.

7195.5 At Stage 10/11, samples taken from beneath the grave goods or beneath the coffin were 8288, 8289, 8290, 8292, 8294, 8296, 8298, 8299, 8314, 8315 and 8337. 8294 and 8337 lay directly beneath the body area.

719.6 How the Pits for Burials 9 and 10 were Backfilled and the Mound Constructed

7196.1 The material used to backfill the pit for F 318 was sand, soil and turf [N 641/32]. The excavators were confident in their identification of turfs. The dark patches south of F358 on the natural was seen as turf (AR,15). 7564 and 7565 were defined as cut turfs (see above 7195.2). Context 1537 was a square of dark brown silt sand 140mm thick, identified as a turf thrown into the NW corner in pre-Stage 1 backfill 1516 (AR,1).

A distinction between the bright sandy backfill to the south of the coffin (1576) and the darker blotchy backfill north of the coffin (1572) was noticeable at Stage 5. Insofar as it could be defined, 1576 was stratigraphically earlier (context cards), implying that backfilling began in the south with yellow sand cut from the natural on that side. A spoil heap is implied on the south side topped with yellow sand.

The backfill on the north side (1572) was "redeposited natural and fill of prehistoric features and many streaks and lumps of decomposed "turf"" (AR, context card). This implies a spoil heap so composed on the north side or, given the position of F319, to the east and west of the north side. At the upper levels (Stage 3 and higher) the distinction was no longer apparent. The final filling of the pit was an even heterogeneous mixture (1516). The section photograph N641/32 shows sand and turf being tipped in from all directions.

The top two layers encountered (1509, 1512) occupied a concentric oval shape [N 609/12] inside a ring of 1516, implying that they are not backfill. For the excavator, 1509 at least (context card) was buried-soil dished in during a later ploughing. However, it has been observed here that the ploughmarks visible within the ancient soil were cut by the grave pit for F318 (714.4). There was no evidence for a subsequent ploughing over the top of F318 itself, which was presumably protected

by a mound. 1509 should therefore represent mound make-up dished in, rather than buried-soil or ploughsoil. The sample taken from it was 8335.

7196.2 The burial pit for the horse F319 was backfilled with sand 1579 (favoured by the northern part) and turf (1580-81) (favoured by the southern part), and finished with fresh sand 1511. There was no analogue to 1509, which presumably reflects the fact that there was no coffin in F319 to collapse and provide a cavity for dished mound make-up to fill.

7196.3 The Mound. The layer 1509 represents virtually the only evidence for the material of which Mound 17 may have been composed. It is rich in silt sand, and the recorded description bringing it close to 1537 (the turf).

1509: 95% friable crumbs of clean 5 YR 3/4 <10mm silt sand (sample 8335).

1537: 100% friable crumbs of clean 7.5 YR 4.2 <10mm silt sand (sample 7688).

Comparison between samples taken from these two contexts help to decide whether they are similar, and if so whether both are turf. Analysis was not thought productive and the matter remains open

There was no quarry pit or ditch identified for Mound 17; a mound constructed from cut turf (including turf stripped from the burial area [see 7.1.1]) is the most likely form. There is no direct evidence for the diameter of the Mound or its height.

7196.4 Ploughing. Like all other mounds at Sutton Hoo, Mound 17 was probably reduced by later ploughing, thought to be 19th century in date and to follow a major unrecorded excavation campaign or 'robbing' (Vol.9). Mound 17, like Mound 5, was reduced to an eroded platform of ancient soil which itself retained traces of a much earlier (probably Roman) ploughing. There was no direct evidence from the Mound 17 area for a supposed 19th century ploughing, apart from the scrambling of topsoil to Horizon 2 which characterised most of Int. 48.

7196.5 A marker post or an attempted robbing. Cutting the ancient soil and situated between the two burial pits F318 and F319 was F292, a feature difficult to define or place in time [seen in section in N 619/10; in plan in N 701/2]. It was about 1.00m in diameter and 0.26 m deep as excavated [32.13-31.87m AOD].

It was originally defined (in definition spit 1512) as an oval pit running parallel to F319 (ie east to west) and cut by F318 (D404). From overhead, however, it could be interpreted rather as an oval pit running north to south and cutting F318 [see N 601/9]. The quadrant taken through the buried soil gives a section (D400) which endorses that stratigraphic order. F292 cuts an already backfilled F318.

The photograph N619/10 is more equivocal and shows them touching along a north-south axis. It is clear from this that F292 does not oversail F318 so that the north-south oval pit/trench can be discounted. In photograph N636/4 the feature is parallel to F318 (as on D404) but not obviously cutting it. Taking the section evidence as decisive, F292 is an oval or circular pit sited between F318 and F319 touching or possibly cutting F318.

Definition at Horizon 2/7 was no easier since the background had become prehistoric ditch-fill rather than ancient soil. There now appeared to be an extension to the E which gave the feature an overall elongated lozenge shape running E -W [D 458]. However the extension was shown to have belonged to prehistoric ditch system, and the relevant context (1594) was reassigned. F 292 now had only one context, fill 1514.

On recleaning for excavation in 1992, the feature showed as a silty sub-circular patch, now much reduced in plan, cutting the Iron Age enclosure and early Bronze Age ditch [N 701/2]. After excavation, the plan was subcircular [N 701/3]. The excavator's verdict as recorded is ambiguous. The fill of F292 (1514) was described as "very fine silt filling a depression" (context card) and this is what is visible on N614/13. The " overall impression [is] that this fill derived from the severe weathering of its subsoil edges which was left open. No sign of any organic (wood) stains to support position of a post. No charcoal was present."[AJC, Context card].

However, the excavator was convinced that the feature had originally been a post hole, subsequently disturbed by rabbit burrows: "there is little doubt that the feature would have held a post" [AJC, feature card].

The choice for the interpreter lies between a robber pit and a post hole, from which the post had been removed. Neither is entirely satisfactory, but the scales perhaps tip in favour of a robber-pit. A post 1 metre in diameter would require a depth of at least that to sustain it, even temporarily, in a vertical position. Even if a post was originally in place, it would have to have been removed, either before the construction of the mound, which would have been pointless, or after which would have been extremely difficult.

On the other hand, the central position would make good sense for a robber pit and at the same time explain why in this case it did not succeed. Although most of the other certain robbing attempts at Sutton Hoo have been trenches not pits, there were at least two exceptions. The best known, the supposed pit cut into Mound 1, was not fully recorded, but it appears to have had a profile and silting pattern not unlike F292. Like F292, it appears to have given up at a very high level, and one must suppose that both were cut from the top of an extant mound, the small pit being all that could be achieved by a vertical cut through sand without resort to trenching. The section makes it clear that the fill, as we have it, N614/14 was part of a much taller feature. To this example might now be added the pit in mound 14 [INT 50, F 396], which was supposed to have presaged the more conventional ransacking of the chamber grave. F 292 has thus at least two possible parallels for a robbing operation.

719.7 Summary of the Sequence

This analysis argues for 11 principal phases as follows:

Phase 1: Ancient soil (1508) previously ploughed in the Roman period, but now grassland, is stripped of turf. The turf is piled up nearby.

Phase 2: A vertically-sided oval pit (F318) approximately E-W in alignment is excavated. Soil, some turf, and prehistoric ditch-fill is heaped up to east and west. A third spoil heap is created on the south side. It is rich in natural sand that the grave diggers are cutting through. The pit F318 may have been measured up, so exactly does it accommodate its subsequent furnishing (AR, feature card 318).

A second pit (F319) is dug parallel to the first and a few yards distant from it. It is cut largely through yellow sand and gravel.

Phase 3

3A: The grave pit F318 may have been left open long enough for a little sand to wash in and collect at its lowest point (1588). A beam 3 in. in scantling (F357) was jammed into the long axis and the grave was furnished.

3B: A cloth may have been laid on the floor of the grave.

3C: Two spears were then placed on the grave floor and covered by a shield, about 32 in. in diameter, lying horizontally, boss uppermost. An iron-bound bucket, originally containing, and a cauldron, originally containing on which a pottery vessel rested, were then placed along the northern edge. Next, to the east, a sausage-shaped leather or textile bag or haversack, about 1 ft 6 in long and 9 in wide was placed upright. It contained meat,, and was topped with a bronze drinking bowl.

3D: At the west end, a martingale, a bridle and a body harness with gilt bronze and silver fittings were dropped in a heap. On top of the heap was placed a saddle, and on top of that a wooden tub 9 in. in diameter at its base and about 16 in. high.

- Phase 4: After removal of the furbishes" beam, the coffin was then lowered into position, slightly north of centre, where it rested on the stud of the shield boss. The coffin was of oak planks and designed as two trapezoidal pegged frames (like two mansard rooves) held together by four iron clasps nailed into position by 16 nails and one extra.
- Phase 5: Inside the coffin was the body of a young man of about 25, his hair held in a pony tail by a bronze ring. He was accompanied by a sword with a buckle and bronze and garnet fitting and a strike-a-light purse with a bronze buckle and containing 8 garnets and a piece of mellifera. He also had an ivory-handled dagger in a wooden sheath.
- Phase 6: A comb was then thrown or placed on the flat-topped coffin. It was later struck by spoil during backfilling and fell into a vertical position against the north wall of the coffin.
- Phase 7: A horse, about 5 years old and 14 hands high, was killed and placed in a grave pit (F319).
- Phase 8: Both pits were then backfilled. The backfilling of pit F318 commenced with the southern spoil heap (mainly sand) and concluded with the east and west heaps (mainly soil and sand, with some turfs). The filling of pit F319 was in sand from the north side, with turf being added from the south just before the top.
- Phase 9: The mound was built up with turfs stacked up around the post.
- Phase 10: An attempt was made to rob the mound by digging a circular pit vertically down at its centre. The attempt was abandoned when the pit arrived at undisturbed sand and gravel subsoil between the two grave pits. The robber pit was left open and silted up. The mound was subsequently ploughed, probably in the 19th century, and reduced to a small platform of ancient soil.

7.1.10 *The Assemblage*

7110.1 Location: material deposited in each phase

This list excludes material that is certainly prehistoric. Numbers in **bold** are samples which are uniquely representative of the relevant micro-assemblage.

Phase 1: Ancient Soil (1550 = 1508)

Sample for pollen/phytolith: 7687

Phase 2: The Digging of Pits F318 and F319

Sample of sand was: 8337, 8314

Samples of natural (?): 8298, 8299

Pottery sherd: 8317

Phase 3: Furnishing of the Grave F318

Phase 3A:

Beam: F357

Sample from socket: 8320, 8073

Phase 3B:

`Cloth" laid on grave floor
Samples: 8290, 8294, 8296

Phase 3C:

Spears: 8261 and 8191. ["Ferrule" 8297 was compacted sand, not an artefact]. Sample: dark earth nearby, 8315

Shield: 8277 (boss), 8308-9 (rivets), 8190 (buckle). Samples: 8300, 8301 (wood?).

Bucket: 8070 with wood from handle (8254); contents (.....). Sample of concreted sand (8312); sample from inside bucket (8092).

Cauldron: 8253, with wood from handle; contents (.....). Sample of concreted sand (8313); organic material from rim (8255).

Pot: 8250; contents (.....)

Haversack (F360), with drinking bowl 8030; ribs 8072, 8251, textile 8068. Samples: 8080, 8098, 8099, 8273, 8274, 8232, 8233, 8278, 7551.

Sample of fill inside 8030: 8067

Phase 3D:

Harness (F358) with bridle, martingale and body harness: snaffle bit (8173/4, 8181), strap connectors for reins (8183, 8200/1), 5 gilt bronze discs with axe-shaped pendants (8182/8168, 8208/8207, 8186/8188, 8356/8185, 8199/8202), an unplaced pendant (8203), 4 decorated strap ends (8111, 8187, 8204, 8354), one three-way strap connector (8206), 3 two-way strap connectors (8178, 8180/8344/8179, 8177/8184), 2 two-way strap connectors with silver pendants (8071, 8176), one one-way strap connector (8175), 7 small buckles (8110, 8176b, 8205, 8210, 8341, 8355, 8357), 2 small silvered pendants (8212, 8069), fragments of leather straps (8170, 8172, 8343), rivets and other fittings (8107, 8209, 8211), unidentified (8189, 8350(?), 8342, 8358).

Belonging to a saddle (?): girth buckle (8318), buckle (8108), iron studs with leather (8164, 8165, 8167, 8169, 8214, 8345, 8346, 8347), iron tacks with wood (8348, 8349, 8351, 8352), copper pins and textile (8213). Samples: 8265, 8305, 8306 for staining on south side. 8321, beneath finds (probably Phase 2).

Wooden tub (F353) containing iron object (8109). Samples: 8024, 8021, 8020.

Phase 4: The Coffin (F356)

Wood from lid: (8262)

Wood from base: (8163, 8319)

Iron clasps (7560-3) and extra nail (8022)

Samples: 8061, 8288, 8295, 8302 [Kubiena], 8303, 8304, 8307

Phase 5: Inside the Coffin (F356)

Skeleton (F359): 8279-8287, 8293, 8316, 8270. Sample: head (8322).

Sword: 8264, with textiles (8192-4, 8198), leather (8195), pommel [buckle?] (8291), linear mount with garnet settings (8263), pyramids (8166, 8197), silver buckle (8171).

Buckle: bronze with garnet inlay (8196)

Purse (8257), containing garnet (8256), seven further garnets (8256B-H), mellifera fragment (8266)

and buckle (8257A).

Knife (?) (8310)

Dagger in leather sheath (8259)

Bronze ring for hair (8260)

Samples from inside coffin at Stage 9/10: (8289, 8292)

Phase 6:

Comb (8252) with detached rivet (8090)

Phase 7: Horse in F319

Skeleton: 8121-8162. Body stain: 7459-7484, 8116-8119, 8120.

Sample of stomach: 7480, 8119

Phase 8: Backfilling

Phase 8A: Backfilling of F318

Stage 8 Samples: 8267-8269; 8271-8276. 8249 ("yellow coffin fill over body")

Stage 7 Samples: 8112-8115; 8225-8248 (includes final fill of coffin). 8237, 8238 for stomach area.

Stage 6 Samples: 8074-8089; 8091; 8093-8106

Stage 5 Samples: 8029; 8031-8051; 8053-8060; [includes turf 8060], 8062-8066

Stage 4 Samples: 7599-6414; 7616; 8015-8019; 8023; 8025-8028

Stage 3 Samples: 7566-7598

Stage 2 Samples: 7531-7559

Lumps of wood/turf 7564, 7565

Stage 1 Samples: 7517-7530

Turf [1537]: 7688

Sherds: 8052, 8311

Canine Tooth: 8339

Phase 8B: Backfilling of F319

Samples of backfill: 7450-7458 (probably turf)

Phase 9: Construction of The Mound

Samples from 1509: 8335

Phase 10: Robbing and ploughing

Phase 10A: Robber Pit, F292

Samples of backfill [none]

Phase 10B: Ploughing of the Mound

[no samples]

7110.2 Location : Co-ordinates of artefacts

FIND No	Easting	Northing	Height AOD	Association	Ident
7560	078.07	174.39	31.31		coffin clasp
7561	078.02	173.67	31.30		coffin clasp
7562	079.74	173.17	31.33-31.205		coffin clasp
7563	079.40	174.05	31.24		coffin clasp
7564	077.725	174.182	31.32		turf
7565	079.89	174.13	31.33		turf
8022	077.975	173.66	31.254-31.219		nail;part of7561
8024	077.62	174.75	31.48-31.30		wall of tub
8030	079.83	174.26	31.26-31.11		bronze bowl
8052	079.222	174.313	31.12		sherd
8061	079.745	173.180	31.16		wood from coffin
8067	079.86	174.28	31.13		fill of bowl8030
8068	079.83	174.26	31.10		textile under bowl 8030
8069	recovered	from sieve	31.12-15	matches 8212	ag pendant
8070	079.04	174.26	31.149-30.866		fe bucket
8071	077.839	174.384	31.163	matches 8176	fe strapconnector
8072	079.83	174.26	31.26		2 ribs
8090	078.613	174.284	31.042		rivet from comb 8252
8107	077.409	174.575	31.139	?saddle	ae pin
8108	077.354	174.218	31.135	?saddle	fe buckle
8109	077.495 <u>98.111</u> <u>98.087</u>	174.644 <u>100.999</u> <u>100.965</u>	31.122 <u>1.284</u> <u>1.275</u>	in/on/under bottom of tub F353	fe object
8110	077.642 <u>98.506</u>	174.193 <u>100.655</u>	31.061 <u>1.266</u>	with 8173	ae buckle
8111	077.87 *****	174.37 *****	31.04 *****		fe strap-end
8250	079.29	174.17	31.02		pot
8251	079.70	174.24	31.02		3 ribs
8252	078.65	174.30	31.05		comb
8253	079.30	174.20	31.01		ae cauldron
8254	079.02	174.38	31.12		wood from bucket handle

8255	079.27	174.30	31.01-02		leather? from cauldron rim
8256	078.36	173.84	30.97		garnet from 8257
8257	078.36	173.84	30.97		purse
8258	079.032	174.254	31.03		fill of bucket
8259	078.34	173.675	31.145		dagger in sheath
8260	078.225	173.915	30.95		ae hair ring
8261	078.20	174.35	30.97-30.89		2 spears
8262	078.62	173.64	31.02		wood on sword from coffin
8263	078.672	173.695	30.98		pyramid
8264	078.80	173.60	30.96-31.00		sword
8266	078.38	173.812	30.96		millifiori
8277	078.529	174.187	30.974 [30.978]		shield boss top of stud
8291	078.30	173.75			sword pommel
8297	079.12	173.78			ferrule?
8308	078.75	174.25	30.899		shield rivet East
8309	078.35	174.23	30.901		shield rivet West
8310	079.40	173.40			fe knife
8311	079.14	174.00			sherd
8318	077.35 *****	174.37 *****	31.08 *****	?saddle	large fe buckle in harness
8319	079.00	173.60			charcoal under sword
8341				"east edge of block; edge on"	fe buckle
8342				under 8173/4	fe frag
8343				equivalent to 8214; joined to 8186 [?], 8354 [?]	leather
8344					same object as 8180
8345				near 8346 ?saddle	cu pins
8346				?saddle	fe and leather
8347				?saddle	rivet/ leather/wood grain N-S

8348				?saddle	fe/wood. grain N-S
8349				?saddle	fe/wood. grain N-S
8351				?saddle	fe/wood. grain N-S
8352				?saddle	fe/wood. grain E-W
8354				att to 8355; ass with 8343	au/cu strapend
8355				att to 8354	fe buckle
8356				joined to 8188	au/cu disc
8357				under 8354	buckle
8358				att to 8185/6, 8188/9, 8356	au/cu fitting
8163					wood from coffin att to sword
8164					leather
8165					leather
8166					pyramid
8167				over 8168	stone/fe
8168	***** <u>100.040 ?</u>	***** <u>100.189</u>	***** <u>1.189</u>	joined to 8182	disc/ax pendant
8169				joined to 8168 ?	fe/cu stain
8170				joined to 8168	organic with disc 8168
8171					ag buckle from sword
8172				joined to 8173 or 8110	leather
8173	<u>98.569</u> <u>98.441</u>	<u>100.673</u> <u>100.716</u>	<u>1.253</u> <u>1.226</u>	over 8182	bit [east]
8174	<u>98.452</u> <u>98.399</u>	<u>100.716</u> <u>100.814</u>	<u>1.227</u> <u>1.272</u>		bit [west], as 8173
8175	<u>98.508</u>	<u>100.748</u>	<u>1.260</u>	with 8200, 8201, with free strap passing over 8202. under 8177	buckle
8176 8176b	<u>98.422</u>	<u>100.905</u>	<u>1.238</u>	matches 8071	fe strap distributor fe buckle

8177	<u>98.625</u>	<u>100.887</u>	<u>1.246</u>	over 8185, 8189; joined to 8184, 8175(?)	strap connector
8178	<u>98.664</u>	<u>100.984</u>	<u>1.191</u>	joins 8180. 8179	strap connector
8179	<u>98.679</u>	<u>101.038</u>	<u>1.205</u>	joined to 8180, 8178	strap connector
8180 [=8344]	<u>98.701</u>	<u>100.994</u>	<u>1.206</u>	joined to 8179	strap connector
8181	<u>98.478</u>	<u>100.717</u>	<u>1.262</u>		terminal of bit 8173/4
8182	<u>100.040</u> ?	<u>100.179</u>	<u>1.238</u>	upside down on subsoil. joins 8168. under 8173/4	au/cu disc
8183				joined to 8173/4	strap connector next to 8173
8184	<u>100.071</u> ?	<u>100.265</u>	<u>1.214</u>	joined to 8177	fe link
8185	***** <u>100.068</u> ?	***** <u>100.265</u>	***** <u>1.229</u>	joined to 8186	ax pendant
8186	a <u>100.080</u> ? b <u>100.100</u> ?	<u>100.289</u> <u>100.321</u>	<u>1.200</u> <u>1.148</u>	joined to 8185. back to back with 8356/8188	au/cu disc
8187	<u>100.063</u> ?	<u>100.255</u>	<u>1.235</u>	joins 8188 by strap [?]	au/cu strapend
8188	a <u>100.066</u> ? b <u>100.071</u> ?	<u>100.257</u> <u>100.278</u>	<u>1.223</u> <u>1.219</u>	under 8187. joined to 8356	ax pendant
8189	<u>100.068</u> ?	<u>100.265</u>	<u>1.228</u>	with 8188/8185	fe object
8190					buckle ass with shield
8191					spearhead corroded to 8261
8192					textile, sword. TX1
8193					textile, sword. TX2
8194					textile, sword. TX3
8195					leather ass with buckle 8196
8196				on sword	cu/garnet buckle
8197				on sword	pyramid
8198				under coffin	textile

8199	<u>100.050 ?</u>	<u>100.193</u>	<u>1.213</u>	joined to 8202 [?]. under and joining 8175	au/cu disc
8200	<u>100.043 ?</u>	<u>100.189</u>	<u>1.246</u>	connected to 8173/4	strap connector
8201	<u>100.045 ?</u>	<u>100.193</u>	<u>1.247</u>	connected to 8173/4	strap connector
8202	<u>100.049 ?</u>	<u>100.199</u>	<u>1.226</u>	joined to 8199 [?]. under 8199, 8175	ax pendant
8203	<u>100.053 ?</u>	<u>100.212</u>	<u>1.222</u>	beside 8202. under 8199, 8175	ax pendant
8204	<u>100.065 ?</u>	<u>100.233</u>	<u>1.202</u>	joined to 8205 [?]	au/cu strapend
8205	<u>100.063 ?</u>	<u>100.236</u>	<u>1.217</u>	ass. with strap 8214	fe buckle
8206	<u>100.070 ?</u>	<u>100.252</u>	<u>1.195</u>	ass. with strap 8214	3-way strap distributor
8207	<u>100.056 ?</u>	<u>100.208</u>	<u>1.212</u>	joins 8208	ax pendant
8208	a <u>100.050 ?</u> b <u>100.063 ?</u>	<u>100.192</u> <u>100.222</u>	<u>1.221</u> <u>1.188</u>	joins 8214, 8173, 8207	au/cu disc
8209	<u>100.054 ?</u>	<u>100.199</u>	<u>1.209</u>	[2 locations on plan]	cu rivet
8210	<u>100.053 ?</u>	<u>100.206</u>	<u>1.213</u>	ass. with 8208 or 8199	fe buckle and backplate
8211	<u>100.046 ?</u>	<u>100.179</u>	<u>1.214</u>		cu rivet
8212	***** a <u>100.037 ?</u> b <u>100.040 ?</u>	***** <u>100.176</u> <u>100.186</u>	***** <u>1.244</u> <u>1.230</u>	ass with 8345, 8346. matches 8069	ag ax pendant
8213	<u>100.050 ?</u>	<u>100.232</u>	<u>1.227</u>	?saddle	cu pins
8214	<u>100.064 ?</u>	<u>100.240</u>	<u>1.206</u>	connects 8208 to 8186. over 8206	leather

Note: in this table grids not underlined means the object was plotted on site and these are its co-ordinates. Grids underlined means that objects were plotted in the BM during the excavation of the harness block, these being grid references recorded by ACEvans, the supervisor. There is clearly an error with the easting of some objects, so the plan prepared by J Thorne has been taken as being the true record of how the objects related to each other in the block in the museum.

The objects for which the position is known both on the ground and in the lab are:

8071, 8107, 8108, 8109, 8110, 8111, 8168, 8185/6, 8212, 8318

Where these are not given in both cases they were not recorded and will need to be taken from the relevant plan (site or BM).

No written records have been received from the BM excavations, so the associations of the objects inside the harness block have been taken from the BM plan.

7110.3 Index of Finds according to the site index and BM lists.

BURIAL 9/ F 318

1. *Human Bone*

1.1 Anatomy. Report by F Lee (not yet received)

C14 date. J Ambers, BM.

2. *Animal Bone*

2.1 : Ribs [scheduled to go from BM to T O' Connor when textiles (qv) have been examined /extracted: 8068, 8072, 8251]

2.2 : Canine tooth, **8339**. [T O'Connor]

3. *Coffin*

3.1 Fe Clamps : **7560-3** (including wood to be identified).

3.2 Nail: 8022

3.3 Wood: **7691-7708, 7953-4, 8061, 8163, 8262**.

4. *Textiles*

Report by H Granger-Taylor. **8068, 8108, 8192-4, 8198, 8213**.

Within the coffin

5. *Sword*: in wooden scabbard , **8264**; with textiles 8192-4, 8198; leather **8195**; horn(?) pommel **8291**; linear mount with garnet settings **8263**; two pyramidal strap-mounts **8166, 8197**; silver buckle **8171**; coffin wood associated with sword **8262, 8163**.

6. *Belt-Buckle*: Ae with garnet inlay **8196**.

7. *Purse and contents*: Mount or frame **8257**; garnet **8256**; millifiore **8266**.

8. *Fe Knife?* : **8310**.

9. *Dagger in leather sheath*: with wood/bone/ivory handle. **8269**.

10. *Small Ae ring (for hair?)*: **8260**.

Outside the coffin

11. *Bronze bowl*: **8030**

12. *Bucket*: **8070**, with wood from handle **8254**.

13. *Ae Cauldron*: **8253**, with wood from handle; leather (?) **8255**.

14. *Shield*: Boss **8277**; rivets **8308-9**; buckle **8190**; wood stain sample **8301** (for identification).

15. *Two spears*: **8261** and **8191**. "Ferrule" **8297**. [Now shown to be compacted sand. Documentation awaited].

16. *Comb*: **8090, 8252.**

17. *Pot* : **8250.** [Residue/chemical decay products research; then conservation; then to Suffolk Archaeological Unit for their report.]

18. *Pottery* : (possibly prehistoric) **8311, 8317.** [To Suffolk Archaeological Unit].

19. *‘Haversack’* : F 360; containing (bowl 8030), ribs 8072, 8251, and textile 8068. Samples for analysis for animal or vegetable micro- or macro-fossils of haversack and contents: **8080, 8098, 8099, 8273, 8274, 8232, 8233, 8278, 8298.**

Harness at West end, F 358

- Objects thought to belong to a *bridle and body harness*.

20. *Snaffle bit* : **8173-4;** with two strap-connectors attached to each side: **8183** and **8200-1.** **8181** ‘disc’ is one of the bit’s discoid terminals.

21. *Au/Ae Disc, with large axe-shaped pendant*: **8182, 8168.**

22. *Four Au/Ae Discs* : **8208, 8186, 8356, 8199**

23. *Five Au/Ae Axe-shaped pendants*: **8207, 8188, 8185, 8202, 8203.**

24. *Four Au/Ae decorated strap-ends*: **8111, 8187, 8204, 8354.**

25. *Three-way strap connector*: **8206**

26. *Three two-way strap-connectors*: **8178, 8180, 8344/8179, 8177.** 8177 has figure-of-eight connection, **8184.**

27. *Two two-way strap-connectors, with Ag pendants*: **8071, 8176.**

28. *One one-way strap-connector*: **8175.**

29. *Seven small buckles*: **8110, 8176b, 8205, 8210, 8341, 8355, 8357.**

30. *Two small undecorated axe-shaped strap-ends or pendants*: **8212, 8069.**

31. *Rivets and other fittings*: **8107, 8209, 8211.**

32. *Leather straps*: **8170, 8172, 8343.**

33. *Unidentified* : **8189, 8342, 8358.**

Objects thought to belong to a saddle

34. *Fe Buckle* : **8108**

35. *Fe Buckle* : **8318.**

36. *Fe Studs and leather fragments* : **8164, 8165, 8167, 8169, 8214, 8345, 8346, 8347.**

37. *Fe tacks and wood fragments* : **8348, 8349, 8351, 8352.**

38. *Cu-alloy pins and textile* : **8213.**

Wooden tub, F353 and associated object

39. *Wooden tub, F 353*: Survived as stain only. Sample for identification of wood is **8024**.

40. *Fe Lump (curry comb?)* : **8109**

Other

41. *Organic stain south of F358 (harness block)*: Identify, textile, leather, wood?: **8265**.

42. *Phytoliths* : Report by Susan Pennington. Pilot samples already taken : **8322** (inside coffin); **8288** (coffin wall); **8337** (beneath coffin); **7460** (organic material from Burial 10. Target samples for analysis in second phase: within bucket 8070 [**samples taken by BM**]; within cauldron 8253 [**samples taken by BM**]; within pot 8250 [**samples taken by BM**]; within "haversack" **8080, 8278**; on top of coffin lid **8248**; from buried soil, 7687.

BURIAL 10/F 319

1. *Animal Bone*

1.1 Analysis of Horse skeleton, **8121-8162**. [T O'Connor, see VOL 9]

1.2 Radiocarbon dating [J Ambers]

2. *Organic material for identification* : **7450-5** [EAU]

7.1.11 *Descriptive Inventory of Finds from Studies in the laboratory* by Angela Evans and Fleur Shearman [**None received from BM**]

7.1.12 *Reconstruction of the Assemblage and its significance*. by Angela Evans (see RR, Chapter 7).

7.2 **MOUND 18** by M R Hummler and M O H Carver, based on records by A C Evans

List of plates:

F 57 before excavation [N 471/3; N 469/15]

F 231 before excavation [N 477/8A]

F 231 at phase [=stage] 2 [N 477/16A]

F 231 post excavation [N 477/27A; N 478/2]

The site of the cremation sampled for chemical mapping [N 479/22].

7.2.1 *Contents*

721.1 Table of Contents

721.2 Naming of the parts

7.2.2 Description of the investigations

7.2.3 The Burial Rite

7.2.4 The assemblage from Mound 18, Burial 11

7.2.5 The robbing and ploughing of Mound 18

7.2.6 Model of the sequence

721.2 Naming of the Parts

1057 the layer of disturbed buried soil in which fragments of cremated bone were first noted.

F 57(1109) Locus of the principal concentration of disturbed cremation in ploughsoil

7.2.2 *Description of the Investigation* (M R Hummler)

722.1 Discovery: Mound 18, an extremely slight undulation of the turf surface, was not picked up by the 1983 contour survey at 10cm intervals (Int. 30) but was discovered at the same time as Mound 17 by Martin Carver in 1985 (cf section 712.1). It was captured photographically (see Plate) with the nearer ranging pole marking Mound 18, the further ranging pole marking Mound 17. Therefore, the position of Mound 18 was known approximately before excavation began in July 1989 and was expected to survive as a platform of "buried soil" similar to that representing Mound 5.

722.2 After removal of the turf, topsoil and ploughsoil 1000 and 1001 by machine, buried soil was indeed found to survive from the 092 easting westwards (Horizon 1). The surface of this Horizon 1 was cleaned by trowelling at level C and a series of contexts (1027 in quadrant D, 1028 in quadrant C, 1956 in quadrant B) were generated to record the surviving "buried soil". It was while meticulously trowelling context 1056 in quadrant B, to the W of the Iron Age palisade trench F56, that two volunteers, Anna West and Ann Stewardson, started noticing minuscule fragments of cremated bone.

722.3 It was decided to create an "artificial" context 1057 (subsequently allocated to the cremation feature F57) over an arbitrary area of 5m², from the 072 easting to the 074 easting and from the 156 northing to the 157.5 northing and to trowel this context at level D in order to capture the distribution of a suspected scattered cremation.

722.4 In nature context 1057 was, apart from the finds yield, indistinguishable from the buried soil 1056 and, at this stage, no clear feature was visible to denote the position of a cremation burial. But, after trowelling a first 2cm deep spit of context 1057, an oblong feature (F57), oriented W-E and whose eastern end just clipped the trajectory of the Iron Age gully F56, became visible. This feature had been disturbed by a series of narrow linear features, running N-S (F86-87) interpreted as mole-runs. It is more likely that the linear features F86 and F87 at least are ploughfurrows, running N-S as do ploughfurrows F40 and F42 in the southern part of Int. 48 (cf. Horizon 1). Further, the few disturbed finds thought to originate from the F57 cremation burial were all found to the N of F57, suggesting that N-S ploughing had dragged the finds northwards.

722.5 Once the cremation feature F57 had been identified, the features that cut it (F87,88) [the excavated furrow is called F 86 by ACE] were excavated to "decontaminate" the area, before excavation of F57 proper could commence.

722.6 The excavation of the cremation F57 under Mound 18 was entrusted to Angela Evans of the British Museum, who recorded work on the features F 57 and 231 between 24 Aug and 19 Sep 1989. This was effectively carried out in 4 stages, although they were not so designated [source: Site diary by ACE]

- Stage 1: The area of cremated bone was defined at level E [D on records, but the bone was plotted fragment by fragment and the context colour-planned as in a grave], and that part of the buried soil designated as context 1057 (F 57). At this point, plough furrows could be seen running across the surface [N-S and E-W; N 471/3]. The principal plough furrow, F 86 running N-S was excavated. The area of 1057 was lowered in 4cm spits.
- Stage 2: By 5 Sep the spread of bone had now contracted to the sub-square patch designated F 231 [N 477/8A]. Contexts 1353 ["Phase 2" on N 477/16A] and 1356 were removed from this area.
- Stage 3: The subsoil was carefully examined over an area c 2m square and to a depth of several cms [N 479/2].

Stage 4: The area was sampled at 10cm interval with a view to chemical mapping[N 479/22]. [This analysis has not subsequently been undertaken].

7.2.3 *The Burial Rite*

723.1 Evidence for the burial rite consists of :

- The former existence of a mound
- The spread of cremated material
- The remains of a burial pit.

723.2 The former existence of a mound, surviving as a buried soil platform and detected topographically. In the event, however, even the buried soil platform had been already much mixed by ploughing. There were no quarry ditch or pits attributable to Mound 18. The original diameter of the mound is unknown. It is possible that Mound 18 was never very substantial, since no quarries exist for it and since the distance between the centre of Mound 18 and the centre of Mound 17 is 18m. If Mounds 17 and 18 were of the same size and touching, this would allow a maximum radius of 9m for each. But it is more likely that Mound 17 with its double inhumation was larger and that there was some gap between the two barrows. Assuming this, then one might arrive at an estimated diameter of 14m for Mound 18 and 20m for Mound 17 (this calculation is based on the following premises:

- Centre of Mound 18 at 157 northing + radius of 7m = N. edge at 164 northing
- 1m gap
- S edge of Mound 17 at 165 northing + 10m - centre of Mound 17 at 175 northing.

The mound had spread to an topographically observed diameter of 18m, probably from an original diameter of about 8.5m-14m.

723.3 The scatter of cremated bone, amongst which were found fragments of two artefacts: a bronze bowl and a comb (section 7.2.4). No unusual concentration of disturbed ferrous or non-ferrous fragments were anticipated by the metal detector survey.

723.4 The 'Cremation Pit', F 231 [N 477/8A].

The feature was first seen as a "skewed rectangular patch of mottled brown soil....It had a patch of sticky silt along the NW 'edge' and a concentration of decayed bone fragments. The 'edges' to the S and N are disturbed by mole tunnels.....no firm edges were seen.....The area contained only a few pebbles which also distinguished it....It became clear that mole activity was widespread... a warren of mole-runs and pits". The excavator remained unconvinced that any man-made feature had been defined, F 231 being "largely fashioned by moles". However, "the concentration of tunnels suggests that they favoured a softer area to dig into.....which may have been a shallow grave pit which has been comprehensively robbed [and/or] ploughed out." [ACE on Feature card]. The area may also have been one of low acidity due to the presence of a burial, and thus blessed by moles. The fills were 1353, a dark brown sandy silt, and beneath it 1356, gingery brown spread merging with the natural sand and probably representing scuffed or ruffled natural.

The maximum dimensions of F 231 were 600mm E-W by 700mm N-S and 180mm deep (31.93-31.75m AOD).

723.3 These observations suggest that the burial rite employed was cremation in a bronze bowl, accompanied at least by a comb, placed in a shallow pit beneath a small mound, c 8.5m in diameter.

7.2.4 *The assemblage from Mound 18, Burial 11*

724.1 Definition of the assemblage. At the time of first recognition, context 1057 was trowelled

and treated similarly to context 1056 (the "buried soil") from which it was, at first, indistinguishable. A number of finds (45 sherds of pottery, 17 flint waste flakes and a fragment of daub), although recorded from 1057 really belong to the buried soil (1056) and can therefore be discounted from the present exposé.

The *early medieval* assemblage of cremation F57 and F231 thus consists of:

- 167 fragments of cremated bone (153 from context 1057/F57, 5 from context 1109/F57, 4 from context 1353/F231, 3 from context 1356/F231 and one each dragged into context 1008/F56 and 1268/F172).
- 17 fragments of a bronze bowl (14 from context 1057/F57, 1 from context 1109/F57, 1 from context 1353, F2231 and one dragged (by the plough) into context 1056 at 75/163).
- 7 instances of vitrified sand, recorded from context 1057/F57.
- 2 tiny fragments of teeth of a composite bone comb (one each from 1057/F57 and 1353/F231)

225 soil samples were taken: 3 are from 1057/F57 and 222 emanate from the base of the cremation pit F231. No analysis of these soil samples has been undertaken. Finally, and unfortunately, only one charcoal sample (from F57) was recovered.

724.2 Location: The 167 cremated bone fragments, 17 fragments of bronze bowl, 2 pieces of bone comb and 7 instances of vitrified sand were plotted. Nearly all the finds concentrate within the features F57/F231 in the four square metres 72/156, 73/156, 72/157 and 73/157. There are only 4 outliers, ie 1 piece of bone comb to the south at 72/156 and three fragments (a cremated bone at 76/161). These northern and southern outliers are thought to have been dragged there by ploughing in an N-S direction, which is also the orientation of the furrows F87 and 88).

724.3 Index of finds

1. *Cremated Bone*

Report by F Lee [received](167 finds)

Find Nos. 496-499, 504-516, 518-563, 565-568, 573-599, 889-909, 912, 914-915, 917-920, 923-925, 928-951, 953-960, 962-967 were recorded in context 1057 in F57.

Find Nos. 1690, 1693-5, 2726 were recovered in context 1109 in F57

Find Nos. 2687, 2767, 3213, 3215 come from context 1353 in F231

Find Nos. 2766, 2768-2769 come from context 1356 in F231

Find No. 1683 was recovered in context 1008 in F56 at 76/162

Find No. 4296 was recovered in context 1268 of F172

2. *Ae bowl* : **500-3, 517, 564, 569-72, 771, 910, 921, 926, 952, 1684, 3216.** 17 Fragments

Find Nos. 500, 501, 502, 503, 517, 564, 569, 570, 571, 572, 910, 921, 926, 952 all originate from context 1057 in F57

Find No. 771 comes from context 1056 in the vicinity of F57 at 75/163

Find No. 1684 comes from context 1109 in F57

Find No. 3216 comes from context 1353 in F231

3. *Textiles* : [H Granger-Taylor]. **564, 952.**

4. *Comb* : **1221, 3214.**

Find No. 1221 comes from context 1057 in F57

Find No. 3214 comes from context 1353 in F231

5 *Glass (?)* : **911, 913, 916, 922, 927, 961, 1027.**

6. *Ship Rivets* : **262, 169.**

7. Instances of vitrified sand (7)

Finds Nos. 911, 913, 916, 922, 927, 961, 1027 come from context 1057 in F57

724.4 Selected Studies

7244.1 The Cremated Bone [extract from the report by F Lee]

7244.2 Artefacts [extract from the report by A C Evans]

7244.3 The vitrified sand

During excavation of 1057 a small number (7) of amber-coloured globules were recovered and were first thought to represent tiny fragments of glass. However, it was suggested, and then confirmed by neutron activation analysis, that these globules are instances of vitrified sand, subjected to intense heat, such as would exist during cremation, at the site of a funeral pyre. However, it is not suggested that the pyre for Burial 11 was found in situ, since no reddening of the sand around F57/F231 could be detected and since very little charcoal was found within the features. It is much more likely that the few tiny pieces of vitrified sand were transported from the pyre, some distance away, with the bronze bowl and then later scattered by the plough.

The vitrified sand from Mound 18 is the subject of a short technical note by Linda Peacock, Julian Richards. (Research File)

7.2.5 *The robbing and ploughing of Mound 18*

725.1 There were plough marks crossing the area of the cremation which ran both N-S (as F 86) and E-W. The E-W ploughing possibly represents the same pre-Saxon system as defined under Mound 17, and in which case it was not responsible for the destruction of Mound 18. The N-S system was noticed on INT 48 (eg F 40), but nowhere else at Sutton Hoo. It conceivably belongs to a medieval cultivation associated with the bank F 224, which could indeed be a lynchet formed by ploughs turning at this point (section 8.1).

There remains the possibility that the very severe scrambling of the soil in the SW part of INT 48 was caused by the second and much later (ie 19th C) E-W ploughing which eroded Mounds 6 and 7. Reducing the options, it is also possible that this same episode was responsible for the observed N-S ploughmarks; in which case it may have been responsible both for the formation of the lynchet and for the elimination of Mound 18.

725.2 There was no direct evidence that Mound 18 had been robbed, in the form, for example, of a robber trench. However it was noticed that all the bronze fragments except one, which lay at the interface of F 231 with the subsoil, were recovered from the upper levels [ACE, Site Diary]. These and the cremated bone had been 'thoroughly minced', presumably by ploughing. The only possible site for the burial itself was very small (ie F 231). This suggests that the burial had been ransacked and scattered before ploughing. The small mammals responsible for the many tunnels may have caused the dispersal of the material from an original concentration (F 231) to that found (F 57); but even assisted by the plough it seems improbable that they could have been responsible for such total fragmentation.

The poverty of the assemblage itself also supports there having been a robbing episode. In this case,

it is possible that F 57 represent the ghost of a robber trench running E-W.

7.2.6 *Model of the Sequence*

The following phases can be distinguished:

- Phase 1 A pit, square in section, is cut through buried soil (1056 renamed 1057 in the vicinity of the cremation) which had previously been ploughed in a direction approximately E-W. The pit just touches the subsoil (F 231).
- Phase 2 Into this pit is placed a human cremation, which features at least a bronze bowl, a comb and textiles.
- Phase 3: A mound approximately 8.5m in diameter, consisting of soil scraped up in the vicinity is erected over the cremation pit.
- Phase 4: The burial and mound are disturbed by robbing. A robber trench probably entered the mound E-W. The burial pit was ransacked, leaving layer of ruffled subsoil (1356) and backfill (1353). Some objects are no doubt removed and the robbers leave a scatter of cremated bone and some artefact fragments on the old ground surface (1109, 1057) in a locus which probably recalls that of their trench (F 57).
- Phase 5: The robbed mound is ploughed in a N-S and probably E- W as well, creating the scrambled version of the buried soil rich in minced fragments of cremated bone (1057). After, or before, this cultivation episode, an army of moles or other small mammals target the bone spread with their tunnels.

7.3 **Evidence for Anglo-Saxon burials from earlier interventions reconsidered (Burials 13, 14, 56)**

7.3.1 *Burial 56.*

A central pit, referred to as a "skull pit", was excavated by Longworth and Kinnes in the 1960's campaign (1980: 11, 29-30, Fig 2, Fig 5, Fig 19). They interpret it as a burial that had been tampered with in Antiquity ("the skull must either have been placed in this position deliberately or had been thrown back during the course of refilling a grave deposit disinterred shortly after burial", p.11). The pit also contained a 7th century AD bronze object and a glass bead. The "skull pit" is burial no. 56 in Carver's list of burials at Sutton Hoo (1992: 371). It produced a C14 date of 746±79AD.

In the light of the experience of excavating burials around mound 5 it might be doubted that only a skull was buried, especially given the size of the pit. [see also AJC comments in VOL 4]. This grave should have contained a sand-body.

7.3.2 *Burials 13 and 14.*

Two cremations, one turned, one unburned, were also recovered by Longworth and Kinnes (1980:11, and Fig 2, Fig 6) in what is the centre of Int 48. The turned cremation is contained in a plain, rather tall pot, dated to the 6th-7th C AD (Bruce-Mitford 1975: 28, Figs 22-23) but an Anglo-Saxon date is not totally unequivocal (Martin Carver, pers. comm.). The unburned cremation is assumed to be of Anglo-Saxon date, but again it might just be of Bronze Age date. These 2 cremations are burials nos. 13 and 14 of Carver's List of Anglo-Saxon Burials at Sutton Hoo (1992: 369).

7.4 **Quarry pits to Mound 5 and Burial 53 in quarry pit F287**

7.4.1 *Quarry pits to Mound 5 in Int. 48* (M R Hummler)

A series of quarry pits to the west of Mound 5 was cut to quarry sand used in building Mound 5 (F3, F4, F6, F5/F287, F288). They exhibit a fairly familiar history of infilling (sandy gravel, turf 'shoulders', central wind-blown pink sand) and need not be presented in detail here. A study of these quarry pits, their size, depth, method of infilling, was written by Andrew Copp in 1991 (see Research Report Z.) where greater detail can be found. Suffice to add here that the disused quarry pits may have still been hollows by the 19th century, as losses presumably from the 1860 campaign of robbing of Mound 2, 5, 6, 7 etc. tend to collect in the tops of hollows left by disused quarry pits (eg ship rivets on F4).

7.4.2 *Burial 53* (M R Hummler)

Int 48

F347	Organic matter in Burial 53
F348	Wooden planks in Burial 53
F349	Grave of Burial 53
F351	Body of burial 53
F352	Wooden piece in Burial 53

742.1 Definition

One of the quarry pits, (F287) contained a, perhaps sacrificial, burial of a badly-decayed human body (F351) laid on wooden planks or within a collapsed coffin (F347, 348, 352) set within a barely visible grave cut (F349). As usually observed in burials cutting quarry pits, the cut for the grave was not visible through the backfill of the quarry pit and was only recognised once the earliest backfill context of the quarry pit (C1549 of F287) had been removed. It therefore seems highly likely that the quarry pit was empty when the grave was cut, did not have time to silt up or have material washing or tumbling in, and that the burial must have taken place very shortly after Mound 5 was constructed. This evidence, as well as the general impression given by the body F351 (face down, with right arm curved over the head) would fit within the 'sacrificial model' proposed for the satellite burials of Mound 5 (the burial in quarry pit F287 equals Burial No. 53 in Carver's list of Anglo-Saxon burials at Sutton Hoo, 1992), but it is not so compelling that other more "peaceful" models could not be accommodated (eg members of Mound 5's family being added to quarry pits as they died naturally, within a generation: quarry pits could remain "empty" for a considerable length of time).

The sequence of events in the quarry pit F287 can be summarised as follows: in the bottom of the empty quarry pit F287, a shallow (only 15cm deep at north end) cut (F349) is made for a grave 1m wide and at least 1.70m long, oriented NNE-SSW. A body (F351, C1583) slightly flexed on his right side, face down and with an arm raised and curved over the head is interred, probably contained within a coffin. This coffin consists of the remains of a plank (F352, C1584) found under the head, and of further remains of wood (F348, C1553) found over the legs and over the right arm, with possibly further remains of wood over the body. To the west (left of the face) and partly over the head, a dark organic patch (F347, C1552) was recognised, and originally interpreted as a meat offering. However, an examination of the records made for F347, F348 and F352 shows them not to be substantially different: it therefore seems much more likely that F347 is also part of a collapsed coffin structure. The body was very severely decayed and it was very difficult for the excavator (Steven Timms) to separate body-decay products from decayed organic material (wood).

After the putative coffin had been placed in the grave, the grave was backfilled with yellowish-brown gravelly sand (F349, C1569) and only then does the first backfill (C1549) of the quarry pit F287 take place. The further character of this quarry pit is a clear pattern of alternate sandy fills and turf growth, implying that the pit remained as a hollow for a considerable length of time, allowing sand and gravel to wash in or blow in and vegetation to grow. Up to three consecutive layers of turf

growth, which may follow episodes of Mound 5 slippage back into the pit are suggested from the records. The southern part of quarry pit F287 had already been excavated in 1989 (whereas F287 was excavated in 1991) where it received feature no. F5. A W-E section (drawing no. D) illustrates the sequence of infilling of this quarry pit.

7.3.1

BURIAL 53

Int 48

1991
S Timms

Grid: 107 169

GRAVE: F349
Fill: 1569
Orientation: NNE-SSE?

High point: 32.06m AOD	Max. length: 1.70m
Low point: 31.74m AOD	Max. width: 0.93m
Min. depth: 0.32m	
Area: 1.58m ²	

A burial of a body (F351) with wooden patches under the head (F352) and over body (F348), in a rectangular scoop (F349) at the base of a quarry pit (F287 = F5 = F58 in Int 41). Other organic decay products (F347) were present.

Quarry Pit: F287 (1510, 1550, 1520, 1522-5, 1547-9; 1468, 1513).

High point: 32.69m AOD	Max. length: [plan]
Low point: 31.74m AOD	Max. width: [plan]
Min. depth: 0.95m	
Area: [plan]	

BODY: F351 (1583)

Length: Not known.

Posture: Face down, right arm up beside the head, left arm down beside the body, left leg slightly flexed.

Identified

Bone: None

Anatomy: Not known

WOOD:

F348 (1553) at 31.95-32.06m AOD wood and planking?

F352 (1584) at 31.74-31.79m AOD wood piece.

OTHER:

F347 (1552) at 31.85-32.03m AOD wood or organic matter.

Excavation

The quarry pit F287, also known as F5 and, in Intervention 41, F58, was recognised at Horizon 1.

It was excavated in quadrants, when the following layers were encountered:

- pinky brown fill of wind blown sand (1513, 1468)
- brown loamy silt sand, probably turf, (1510, 1515, 1520)
- sand and turf attributed to Mound slippage (1522, 1523, 1524)
- a turf layer on the west side, probably growing, (1525)
- wind blown sand (1547)
- Mound slippage of sand and gravel (1548, 1549).

The removal of 1549 exposed a complex of organic decay products, heavily penetrated by pebbles [N642/15,17].

The most recent of these deposits, at 32.03-31.85m AOD was F347 (1552), which resembled body material but had no recognisable shape.

It lay over a layer of organic decay product resembling wood (F348/1553) which covered much of the base of the quarry pit, at 31.95-32.06m AOD [N636/8].

Beneath lay a layer of organic decay product more readily identified as body matter (F351/1583) at 31.80-31.93m AOD. The head lay beneath F347, and the legs beneath F348; the body was extremely difficult to distinguish from either.

The excavator, nevertheless, succeeded in defining a large amount of the body-locus.

"The body is face down, head to north-east, feet to south-west The right arm is extended in front of the head The left arm is running down the side of the body, the left leg is bent, the right apparently straight".

Beneath the head was another amorphous stain of organic decay product (F352/1584) at 31.74-31.79m AOD. It was probably wood.

Beneath the body area, a depression was defined which, it was assumed, had been the grave. Its attributed fill, 1569 was recorded as being under all the layers of the quarry pit, but as covering the body (1583) and other organic matter (1553, 1584).

However, the legs of the body (1583) and the organic matter (1553) are both recorded as projecting beyond the observed limits of F349 during the earlier stages of excavation [D476]. At the latest stages, F349 appears to be simply the bottom of the quarry pit [N636/5].

The excavator's interpretation was that the body had been "thrown into a grave and then covered with wooden board(s)".

He also speculated that the body had either been left exposed, or immediately covered by partial filling of the grave.

Interpretation

The actual cut for a "grave" here is insubstantial, and is more likely to have been simply the lowest part of the quarry pit. The sequence can be read as follows:

1. A body (F351) was laid face down on the quarry pit base, the head coincidentally or deliberately coming to rest on a shapeless piece of timber (F352). The corpse was immediately covered with wooden pieces - from their thickness, probably planks rather branches (F348).

There may however, have been branches, undergrowth, or more planks placed over the head area (F347).

2. A thin sand layer, 1569, arrived on the timber, as natural weeping from the quarry pit-edge and from the Mound.
3. Pebbles from the Mound also rolled onto the boards. Slippage of turf and sand from the Mound covered the pebbles (1548, 1549). After an interval, turf grew on the west side (1523, 1524, 1525) and sand blew (1547).
4. More slippage from the Mound, sand, 1522, covered turf 1523.
5. An interval followed when turf formed freely over the quarry pit (1520, 1510, 1515).
6. At a certain moment, a large amount of wind blown silty sand filled the overgrown quarry pit, to give the characteristic of pinky-brown fill.

None of these episodes can be dated with any certainty; however, it seems certain that the dead person was buried in an empty quarry pit and thus very soon, if not contemporarily with the construction of Mound 5.

8. SELECTED STUDIES: MEDIEVAL AND LATER

8.1 Bank and ditch or lynchet F224/F338

Int 48 is no different from all other areas of excavation at Sutton Hoo in showing very little evidence of further early medieval or high medieval activity. The general impression is that the barrow cemetery lasted no longer than a century (Carver 1992: 366) and nothing more happened on site for a long while (there may be a few hints at a 10th century presence on site (Carver pers. com.).

On Int 48 hardly any medieval pottery has been picked up (a handful at most) and the only features of *late* if not *post-medieval* date is the earthwork flanking (to its east) the western track that skirts Top Hat Wood and truncates Mounds 12, 17, 18 and 1. It consists of a bank (labelled here F224 and F338, with a string of contexts), accompanied on its eastern side by a ditch (F59/F188) 1.20 - 1.70m wide and 55cm deep (where excavated, against southern edge of site). This ditch, cut through sterile natural sandy subsoil, provided enough nutrients in its deep, grey podsolised fill (C1284) to attract the roots of the ash tree that stands at the entrance to the Sutton Hoo site: its roots could be traced for a distance of some 50m southwards from the tree along the course of the ditch.

What purpose did this bank and ditch system fulfil, or can one really talk of a "bank and ditch" in the conventional sense, ie the ditch being dug to create the bank and to add height to a barrier? What is inside, what is outside? Several possibilities spring to mind:

The bank and ditch are track-side features and are part of a network of late or post-medieval trackways, which includes the "hollow-way" (roadside ditches and wheel ruts) visible from NE to SW, running through Int 50, 44 and 55 where it is joined, more or less at right angles, by another hollow-way (F11 of Int 55). This is certainly a likely possibility and one that has been presented in the report of excavations of Mound 1 (Bruce-Mitford 1975)

The "ditch" is a hedge and the "bank" is a lynchet that built up against this hedge. This second interpretation would accommodate the records made on site slightly more comfortably. The arguments in favour of such a model run on as follows. The fill of the ditch is not homogenous, but neither does it exhibit any of the lenticular patterns or silting of washing/windblown episodes one would expect of an open ditch. The ditch "looks backfilled" with heterogenous materials. Secondly, the eastern edge of the ditch is linear, but the western edge more ragged. The profile is also steeper against the western edge than along the eastern one. Thirdly, a single large rectangular posthole, F273, and accompanying slot (to remove post?) was found in the ditch at 066/143 (against the

southern edge of the site). Fourthly, the bank does not feature any upcast material (as would be expected from a ditch cut through subsoil) but consists instead of a build-up of ploughsoil (see D130, 131, 364) over a thicker buried soil.

All together, the story could run as follows:

A ditch is cut in order to plant a hedge into it, soil accumulates or is deliberately backfilled against the roots or base of this hedge. The hedge is occasionally interrupted by a large upright post (perhaps a gate through the hedge?). On the western side, soil builds up against this hedge, the lynchet thus forming a "bank". This would imply that the western, track-side part of the Sutton Hoo promontory and perhaps even the slopes of Top Hat Wood were ploughed, a factor that, according to Carver, does not defy imagination. If this is not acceptable, then perhaps traffic on the sandy track could still cause erosion and a consequent build-up against the putative hedge.

A final element comes to complicate matters further: an assemblage of postholes (F60-68, F70-78, F196) can be seen running N-S "alongside" ditch F188 and under the bank F224. These posts may be prehistoric (perhaps Bronze Age?) and are just fortuitously sharing a stretch of alignment with the medieval ditch. Or these posts are part of a fence replaced by the ditch/hedge and later buried by the bank/lynchet.

The discussion of medieval features on Int 48 has brought us once again in contact with ploughing episodes, which seem to characterise the post-medieval and early modern life of Sutton Hoo, all but eradicating Mounds 17 and 18, and rubbing down other barrows at Sutton Hoo (eg Mounds 5, 13 and 14). As has been noted above (see sections 3.4 and 6) some uncertainties still exist: do all the ploughmarks visible at Horizon 1 belong to this post-medieval or early modern agricultural activity, or can some of the ploughing be ascribed to earlier periods? Perhaps more detailed analyses of the finds in superficial contexts over the whole of Sutton Hoo will help to throw some light on this matter.

END

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Table 1: Features Excavated in Intervention 48

F1	Quad F	1002 1020	Scoop	
F2	Quad F	1003 1004 1023 1030 1040	Pit	
F3	Quad F	1005 1059 1088 1090 1091	Quarry Pit	
F4	Quad F	1006 1007 1180 1181 1262 1310 1314 1338 1339	Quarry Pit	
F5	Quad F	1008 1009 1098 1122 1123	Quarry Pit	(=F287)
F6	Quad F	1011 1012	Quarry Pit	
F9	Quad F	1017	Posthole	
F11	Quad F	1019 1031 1105	Scoop	
F13	Quad E	1025 1092 1093 1101 1102 1103 1104	Posthole	
F14	Quad D	1029	Timber in Horizon 1	
F23	Quad D	1041	Posthole, F29 area	
F24	Quad D	1042	Natural feature	
F26	Quad D	1044	Posthole, F29 area	

F27	Quad D	1045 1340	Posthole, F29 area
F28	Quad D	1046	Posthole, F29 area
F29	Quad C/D	1047 1048 1099 1049 1100	Pit (Beaker)
F30	Quad D	1053	Scoop/posthole, F29 area
F32	Quad E	1060 1061	Posthole
F33	Quad L	1063	Scoop dug at Horizon 1
F34	Quad L	1064	Posthole (Horizon 1), BA fence
F35	Quad L	1065	Posthole (Horizon 1), BA fence
F36	Quad L	1066	Posthole (Horizon 1), BA fence
F37	Quad L	1067	Posthole (Horizon 1), BA fence
F38	Quad L	1068	Posthole (Horizon 1), BA fence
F39	Quad L	1069	Posthole (Horizon 1), BA fence
F40	Quad L	1070	Ploughmark, Horizon 1
F41	Quad L	1071	Posthole (Horizon 1), BA fence
F42	Quad K	1073 1097	Ploughmark, Horizon 1
F43	Quad K	1074	BM spoilheap, Horizon 1
F51	Quad C	1084	Ditch? Natural? cut by F29
F52	Quad C	1085	Posthole (square)
F54	Quad C	1087	Scoop
F55	Quad D	1107	Posthole, F29 area
F56	Quad B/C	1108 1395 1397	IA gully (=F172)
F57	Quad B	1057	remains of BS under Mound 18 (see F231), scattered cremation
F58	Quad B	1110 1260	Scoop
F59	Quad B	1095	Ditch accompanying med. bank (=F188)

F86	Quad B	1141	Plough furrow
F87	Quad B	1142	Plough furrow or burrow
F90	Quad A	1147 1157 1411 1413 1417	Pit
F93	Quad A	1150 1337	Treepit cut by posthole F202
F99	Quad K	1160	Posthole (Horizon 1), BA fence
F100	Quad D	1052	Posthole, F29 area
F101	Quad D	1051	Posthole, F29 area
F102	Quad D	1166	Posthole, F29 area
F103	Quad D	1167	Posthole, F29 area
F104	Quad D	1168	Posthole, F29 area
F105	Quad D	1169	Posthole, F29 area
F106	Quad D	1170	Posthole, F29 area
F107	Quad D	1050	Posthole, F29 area
F109	Quad D	1172	Posthole, F29 area
F110	Quad D	1173	Posthole, F29 area
F111	Quad C	1174	Posthole, F29 area
F112	Quad C	1175	Posthole, F29 area
F113	Quad C	1176	Posthole, F29 area
F114	Quad C	1177	Posthole, F29 area
F115	Quad C	1178	Posthole, F29 area
F116	Quad D	1179	Pit (neolithic)
{F125	Quad L	1192	Posthole (surface only)}
{F126	Quad L	1193	Posthole (surface only)}
F131	Quad K	1222	Scoop
F135	Quad K	1226	Scoop
F136	Quad K	1227	No feature
F167	Quad B	1263	Posthole cutting F56

F172	Quad Y	1218	Gully of IA enclosure (=F56) 1268, 1404
F188	Quad J/H	1414	Ditch accompanying med. bank 1284 (=F59)
F198	Qu. NMGH	1296 1402 1405 1412 1419	Ditch (contains gullies F274, 275)
{F201	Quad H	1309	Scoop (surface only)}
F202	Quad A	1311	Posthole cutting F93
F203	Quad K/L	1204 1205 1206	Pit
F224	Quads B/H/J	1096 1304 1305	Med. bank (=F338)
F228	Quad K	1350 1364	Posthole
F231	Quad B	1353 1356	Ploughed/burrowed cremation in Mound 18 (see also F57)
F232	Quad D	1319 1341 1346	Posthole cutting F27, F29 area
F233	Quad B	1355	Posthole cutting F56
{F239	Quad H		Pit (surface only)}
F240	Quad B	1365	Posthole cutting F56
F257	Quad L	1382	Posthole cutting F222
F258	Quad C	1383	Posthole cutting F51, F29 area
F262	Quad L	1390	Posthole cut by F203
F263	Quad K	1391	Posthole cut by F203
F264	Quad D	1392	Posthole truncated by F29
F265	Quad D	1393	Posthole truncated by F29
F266	Quad B	1394	Posthole cutting F56
F269	Quad J	1406	Posthole cutting F172 (F56)
F270	Quad J	1407	Posthole cutting F172 (F56)
F271	Quad J	1415	Row of postholes in base of F172 (F56)

		1420	
		1425-1445	
F272	Quad B	1416	Posthole cutting F56
F273	Quad H	1418	Posthole & slot cutting ditch F188 (med.)
F274	Quad M	1421	Gully part of ditch F198
F275	Quad M	1419	Gully part of ditch F198
F276	Quad M	1422	Posthole alongside gully F274
F277	Quad M	1423	Posthole alongside gully F274
F278	Quad M	1424	No feature (burrow)
F279	Quad B	1446-1455	Postholes in base of F172/F56 (as F271)
F280	Quad N	1456	Pit or natural scoop under ditch F198
F282	Quads R & S	1463	Plough furrows, Horizon 1
F283	Quad S	1464	Posthole with daub
{F284 Quads R & S 1465 IA gully, E-W (surface only)}			
{F285 Quad R 1466 Scoop or no feature (surface only) Horizon 1 }			
{F286 Quad S 1467 IA gully, N-S (surface only)}			
F287	Quad S	1468	Quarry pit of Mound 5 (=F5) (see also F347, 348, 349, 351, 352)
		1510	
		1513	
		1515	
		1520, 1522-1525, 1547-1549	
F288	Quad S	1469	Quarry pit of Mound 5 north of F287
		1574	
F289	Quad P	1470	Scoop, Horizon 1
F290	Quads P/Q	1474	Plough furrows, Horizon 1 (as F282)
		1478	
F291	Quad Q	1475	Quarry, no feature, Horizon 1
F292	Quad P	1514	Posthole or scoop between F318 and F319
		1594	
		1477	
{F298 Posthole?}			
F318	Quad P	1509	Grave, Mound 17 (see also F353, 356, 357, 358, 359, 360)
		1516	
		1537	
		1572	
		1576	

		1588	
F319	Quad P	1511 1579 1580 1581	Horse burial, Mound 17 (see also F355)
F321	Quad O	1518 1565 1570 1568 1539 1573	Pit to SW of Mound 17
F330	Quad Q	1534 1535 1566	Rectangular feature, part of IA gully F284?
{F336 Quads P/Q		1545	IA gully (surface only)}
{F337 Quads P & Q		1546	EBA ditch system (surface only)}
{F338 Quad O		1551	Medieval bank (=F224) trowelled with definition spits}
{F346 Quad O		1562	Scoop}
F347	Quad S	1552	Coffin in quarry pit F287
F348	Quad S	1553	Wooden board in quarry pit F287
F349	Quad S	1569	Grave cut in quarry pit F287
F350	Quad Q	1564 1571	Posthole cutting F330
F351	Quad S	1583	Body in quarry pit F287
F352	Quad S	1584	Wooden board in quarry pit F287
F353	Quad P	1582	Tub in grave F318, Mound 17
F355	Quad P	1575 1592 1593	Horse in F319, Mound 17
F356	Quad P	1577 1578 1587	Coffin in grave F318, Mound 17
F357	Quad P	1586	Posthole in grave F318, Mound 17
F358	Quad P	1589 1590 1591	Bridle in grave F318, Mound 17
F359	Quad P	-	Body in grave F318, Mound 17
F360	Quad P	-	Leather bag in grave F318, Mound 17

Total: 128 features excavated (out of 364)

Table 2: List of Contexts not in Features (= floating contexts) Excavated in Intervention 48

1000	Topsoil
1001	Ploughsoil
1010	Remnant of ploughsoil over F6
1016	Remnant of ploughsoil, corner of Quad F
1027	Buried soil in Quad D
1028	Buried soil in Quad C
1056	Buried soil in Quad B
1058	Buried soil in Quads L & K
1089	Buried soil in Quad K
1121	Cleaning layer in Quad A, Horizon 1
1146	Gravel spread in Quad A
1161	Cleaning layer in Quad J to reach Horizon 2
1162	Cleaning layer in Quad H to reach Horizon 2
1163	Cleaning layer in Quad G to reach Horizon 2
1164	Cleaning layer in Quad L to reach Horizon 2
1165	Cleaning layer in Quad K to reach Horizon 2
1197	Turf and topsoil in 154 baulk, Quad L
1198	Ploughsoil in 154 baulk, Quad L
1199	Buried soil in 154 baulk, Quad L
1200	Top of Horizon 2 in 154 baulk, Quad L
1207	Turf and topsoil in 154 baulk, Quad K
1208	Ploughsoil in 154 baulk, Quad K
1209	Buried soil in 154 baulk, Quad K
1210	Top of Horizon 2 in 154 baulk, Quad K
1212	Feature fill? in 154 baulk, Quad K
1214	Turf and topsoil in 154 baulk, Quad J
1215	Ploughsoil in 154 baulk, Quad J
1216	Buried soil in 154 baulk, Quad J
1217	Top of Horizon 2 in 154 baulk, quad J
1257	Spread cut by F131, 135, 136, Quad K (natural)
1299	Top of Horizon 2 in 154 baulk, Quad J (=1217)
1300	Turf and topsoil in 154 baulk, Quad H (over bank F224)
1301	Dump over bank F224 in 154 baulk, Quad H
1302	Turfline over bank F224 in 154 baulk, Quad H
1303	Bank make-up of ploughsoil in 154 baulk, Quad H (bank F224)
1315	Turf and topsoil in 154 baulk, Quad H
1316	Ploughsoil in 154 baulk, Quad H
1317	Pebble spread in 154 baulk, Quad H (=1146)
1318	Top of Horizon 2 in 154 baulk, Quad H
1354	Cleaning layer in Quads M and N t reach Horizon 2
1408	Remnant of BM spoilheap in 143 section, Quads L & K
1409	Turfline under BM spoilheap in 143 section, Quads L & K
1410	Topsoil in 143 section, Quads L & K
1458	Turf and topsoil in 143 section, Quad N
1459	Track make-up in 143 section, Quad M
1460	Turf and topsoil in 143 section, Quad M
1461	Ploughsoil in Quads O, P, Q, R, S
1462	Definition spit in Quads O, P, Q, R, S under 1461 = Horizon 1
1471	Definition spit in Quads O, P, Q under 1462 = Buried soil
1472	Definition spit in Quads R, S under 1462 = Buried soil
1473	Definition spit in Quads O, P, Q under 1462 (-1471) = Buried soil
1476	Rabbit disturbance over F318, F319 in Quads P, Q, seen at Horizon 1
1479	Definition spit in Quads R, S under 1462 (=1472) = Buried soil
1508	Definition spit in Quads O, P, Q under 1473 = Buried soil
1512	Definition spit in Quads O, P, Q under 1508 = Buried soil

1550 Buried soil in Quad O (under bank) = Buried soil 1508, 1512

Table 3: Contexts Allocated to Natural Subsoil in Intervention 48

1022	Subsoil in Quad F
1026	Subsoil in Quad E
1055	Subsoil in Quad D
1062	Subsoil in Quad L
1072	Subsoil in Quad K
1094	Subsoil in Quad C
1124	Subsoil in Quad B
1156	Subsoil in Quad A
1201	Subsoil in 154 baulk, Quad L (=1062)
1211	Subsoil in 154 baulk, Quad K (=1072)
1306	Subsoil in 154 baulk, Quad H (=1313)
1312	Subsoil in Quad J
1313	Subsoil in Quad H
1345	Subsoil in Quad G
1387	Subsoil in Quad M
1388	Subsoil in Quad N
1483	Subsoil in Quad S
1497	Subsoil in Quad R
1538	Subsoil in Quads O, P, Mound 17 SW
1544	Subsoil in Quads P, Q, Mound 17 NE
1556	Subsoil in Quads P, Q, Mound 17 SE
1563	Subsoil in Quads O, P, Mound 17 NW

Table 4: Intervention 48 Finds Records

Ceramic	2757	[2651 pot sherds, the rest fired clay, tile, brick, claypipe (106)]
Burnt flint	2356	
Flint	1535	(35 implements, 1500 waste products)
Matrix samples	756	
Metal	253	(Fe, Ae, Ag, composite, slag)
Bone objects)	243	(animal, cremated human, inhumed, bone
Wood charcoal	120	
All others	109	
No finds	228	
TOTAL	8357	

Table 5: Summary of Artefacts Recovered in the Mound 17 Grave Complex

Ceramic	173	(3 fired clay, 170 pottery of which one nearly complete Anglo-Saxon pot, the rest all prehistoric)
Bflint	65	
Flint	85	(waste flakes and core fragments)
Matrix samples	242	
Metal	82	(47 Fe, 31 Ae, 4 others or composite)
Leather	7	
Textile	5	
Organic (unidentified)	3	(associated with bridle complex F358)
Bone comb	1	
Animal bones	2	(ribs)
Garnet (loose)	1	
Glass inlay	1	
Wood	4	
Charcoal	2	
Bone (human)	12	
Organic (body)	1	
Tooth	1	
TOTAL	687	

Table 6: Int 48, The Ceramic Material, Status of Records in Finds" Index on Database

	Disk 1+Disk 2	Disk 3	Disk 4	Total
Tiles	10	1	0	11
Brick	3	0	0	3
Claypipe	3	0	0	3
Fired clay	39	50	0	89 (=106 non-pot)
Pottery, unid. (disks 3 & 4 not done)	892	(1117)	(152)	(2161)
Pottery, identified (disks 3 & 4 not done)	475	(15)	(0)	(490)
TOTALS	1422	1183	152	2757

Table 7: Int. 48 Pottery Seriation of Features (for finds 1-5000 only)

F116	27						Neol. pit	NEO
29	2	1	8	25			Beaker pit	
27	2		1	7			P-hole, Beaker pit area	
101			1				Phole, Beaker pit area	
90		1	1	8			Pit	
203	5			18			Pit	
262				2	1		Phole, <u>cut by</u> F203 above	
239	5			1			Pit	BA
228				6			Phole	
232				4			Phole, Beaker pit area	
111				1			Phole, Beaker pit area	
264				1			Phole, Beaker pit area	
198				3			Ditch	
131				4			Scoop	
135				1			Scoop	
93	1		1		1		Treepit?	Date uncertain
2				6	1	1	Pit	Date uncertain
56/172	1	1	1	57	28		IA palisade	IA
3				5			Quarry pit	
4	10	1		5	2	2	Quarry pit, cuts	
							Neo/BA ditch	
5	2			1			Quarry pit, cuts	
							Neo/BA ditch	
6	4	1					Quarry pit, cuts	
							Neo/BA ditch	Later
40	4						Ploughfurrow, cuts BS	
59/224	3			24	5	1	Med. bank & ditch	
BS	19	3	6	67	25	5		
1000 & above								

Table 8: Colour Characterisation of Features on Int. 48

Key: **bold type** = dark (5YR 3/3 and 3/4: 7.5YR 3/2: 10YR 3/3)
 normal type = mid-brown (5YR 4/3, 4/4 and 4/6: 7.5YR 4/2 and 4/4)
 shadow type = pale (7.5YR 5/4, 5/6 and 5/8)

F116	5YR 3/4	
F29	7.5YR 4/4	(1047, 1049)
	7.5YR 5/8	(1048)
	7.5YR 4/2	(1099)
	5YR 2/1	(1100)
F27	7.5YR 4/4	(1340)
F232	10YR 3/3	
F90	5YR 3/3	(1147)
	7.5YR 4/4	(1157)
	5YR 3/4	(1413)
F203	5YR 4/3	(1204)
	5YR 3/4	(1205)
F228	7.5YR 4/4	(1350)
	7.5YR 4/2	(1364)
F198	5YR 3/4	(1296)
F131	7.5YR 4/4	
F135	7.5YR 4/4	
F93	5YR 4/3	(1150)
	5YR 4/4	(1337)
F56	5YR 3/3, 10YR 2/2	
F172	5YR 3/4	
F2	7.5YR 5/6	(1003)
	7.5YR 4/2	(1004)
F3	7.5YR 5/4	(1005)
	7.5YR 4/4	(1059)
F4	7.5YR 5/4	(1006)
	7.5YR 4/4	(1007)
F5	5YR 5/6	(1008)
	5YR 3/2	(1009)
F6	7.5YR 4/2	(1011)
	7.5YR 4/4	(1012)
F59	10YR 4/4	(1095)
F188	7.5YR 4/4	(1284)
	7.5YR 3/4	(1414)

Buried Soils:

1027	10YR 3/3
1028	-
1056	5YR 3/4
1058	7.5YR 4/4
1089	7.5YR 4/2
1199	5YR 3/4
1209	7.5YR 4/2
1216	5YR 3/4
1461	5YR 3/3
1462	5YR 3/4
1471	7.5YR 4/2
1472	7.5YR 4/2
1473	7.5YR 4/2
1479	5YR 4/2
1508	7.5YR 3/2
1512	5YR 3/4
1550	5YR 3/4

Table 9: Finds Population in Features

F1	Pit (disk 1) 4 ceramic (4 pot) 2 Bflint 2 matrix samples	Total finds: 8
F2	Pit (disk 1 & 2) 28 ceramic (26 pot, 2 fired clay) 39 Bflint 2 flint work 6 matrix samples 2 bone (a) (rabbit)	Total finds: 77
F3	Quarry pit, Mound 5 (disks 1 & 2) 13 ceramic (13 pot) 14 Bflint 9 flint waste 3 matrix samples	Total finds: 39
F4	Quarry pit, Mound 5 (disks 1 & 2) 89 ceramic (89 pot) 39 Bflint 44 flint waste 9 matrix samples 4 bone (H) (cremation?) 1 metal (slag)	Total finds: 186
F5	Quarry pit, Mound 5 (disk 1) 8 ceramic (8 pot) 1 Bflint 5 matrix samples	Total finds: 14
F6	Quarry pit, Mound 5 (disk 1) 15 ceramic (15 pot) 5 Bflint 1 flint waste 2 wood charcoal	Total finds: 24
F9	Posthole (disk 1) 1 matrix sample	Total finds: 1
F11	Scoop (disks 1 & 2) 1 ceramic (1 pot) 3 Bflint 2 flint waste 4 matrix samples 2 wood charcoal 1 sandstone	Total finds: 13
F13	Posthole (disks 1 & 2) 1 ceramic (1 fired clay) 13 Bflint 2 flint work 14 matrix samples 5 wood charcoal 2 organic (seeds)	Total finds: 37

F14	Timber, Horizon 1 (disks 1 & 2) 1 matrix sample 1 daub	Total finds: 2
F23	Posthole (disk 1) 1 flint waste 1 matrix sample	Total finds: 2
F24	Natural feature (disk 1) 2 matrix samples	Total finds: 2
F26	Posthole (disk 1) 1 ceramic (1 pot) 1 flint waste 1 matrix sample 1 wood charcoal	Total finds: 14
F27	Posthole (disks 1 & 2) 15 ceramic (15 pot) 11 Bflint 2 flint waste 5 matrix samples	Total finds: 33
F28	Posthole (disk 1) 1 Bflint 2 flint waste 1 matrix sample 4	Total finds: 4
F29	Pit (Beaker) (disks 1 & 2) 97 ceramic (7 fired clay, 90 pot) 143 Bflint 14 flint (12 waste, 2 implements) 24 matrix samples 2 wood charcoal 2 bone (a) horse 7 metal (slag) 1 daub (structural)	Total finds: 290
F30	Scoop (disk 1) 1 Bflint 1 matrix sample	Total finds: 2
F32	Posthole (disk 1) 2 matrix samples 1 wood charcoal	Total finds: 3
F33	Scoop (disk 1) 1 wood charcoal	Total finds: 1
F34	Posthole, BA fence (disk 1) 1 matrix sample	Total finds: 1
F35	Posthole, BA fence (disk 1) 2 Bflint 1 matrix sample 1 wood charcoal	Total finds: 4

F36	Posthole, BA fence (disk 1) 1 ceramic (1 pot) 1 matrix sample	Total finds: 2
F37	Posthole, BA fence (disk 1) 1 matrix sample	Total finds: 1
F38	Posthole, BA fence (disk 1) 1 matrix sample 1 wood charcoal	Total finds: 2
F39	Posthole, BA fence (disk 1) 1 matrix sample	Total finds: 1
F40	Plough furrow, Horizon 1 10 ceramic (9 pot, 1 fired clay) 1 Bflint 2 flint waste 1 matrix sample	Total finds: 14
F41	Posthole, BA fence (disk 1) 1 matrix sample 2 wood charcoal	Total finds: 3
F42	Plough furrow, Horizon 1 (disk 1) 1 Bflint 2 matrix samples	Total finds: 3
F43	BM spoilheap no finds	Total finds: 0
F51	Natural feature or ditch? (disk 2) 1 Bflint 1 flint waste 1 matrix sample	Total finds: 3
F52	Posthole (disk 1) 1 ceramic (1 pot) 1 matrix sample	Total finds: 2
F54	Scoop (disk 1) 1 Bflint 1 flint waste 1 matrix sample	Total finds: 3
F55	Posthole (disk 1) 1 matrix sample 2 wood charcoal	Total finds: 3
F56	IA gully (see also F172) (disks 1 & 2) 207 ceramic (197 pot, 9 fired clay, 1 brick) 77 Bflint 64 flint waste 18 matrix samples 16 wood charcoal 1 bone (a) rabbit 1 bone (n) cremation (from F57) 1 daub (structural)	Total finds: 385

F57	Cremation under Mound 18 (see also F231) (disks 1 & 2) 44 ceramic (44 pot) 17 Bflint 158 bone (h) cremation 1 bone (o) 15 metal (Ae) bowl fragments 7 vitrified sand 3 matrix samples 1 wood charcoal 1 daub	Total finds: 258
F59	Medieval ditch (see also F188) (disk 1) 35 ceramic (34 pot, 1 tile) 15 Bflint 18 flint waste 1 metal (slag)	Total finds: 69
F86	Plough furrow, Horizon 1 (disks 1 & 2) 1 ceramic (pot) 1 matrix sample 1 metal (slag)	Total finds: 1
F90	Pit (disk 2) 27 ceramic (26 pot, 1 fired clay) 75 Bflint 60 flint (59 waste, 1 implement) 4 matrix samples 5 wood charcoal 2 metal (slag)	Total finds: 173
F93	Treepit (disks 1 & 2) 14 ceramic (14 pot) 18 Bflint 3 flint waste 2 matrix samples	Total finds: 37
F99	Posthole, BA fence (disk 1) 1 matrix sample 1 wood charcoal	Total finds: 2
F100	Posthole, F29 area (disk 1) 1 flint waste 1 matrix sample	Total finds: 2
F101	Posthole, F29 area (disk 1) 1 Bflint 1 matrix sample	Total finds: 3
F102	Posthole, F29 area (disk 1) 1 Bflint 1 matrix sample	Total finds: 2
F103	Posthole, F29 area (disk 1) 1 Bflint 1 matrix sample	Total finds: 2
F104	Posthole, F29 area (disk 1)	

	1 flint waste	Total finds: 1
F105	Posthole, F29 area (disk 1) 1 matrix sample	Total finds: 1
F106	Posthole, F29 area (disk 1) 1 matrix sample	Total finds: 1
F107	Posthole, F29 area (disk 1) 2 matrix samples	Total finds: 2
F109	Posthole, F29 area (disk 1) 2 matrix samples	Total finds: 2
F110	Posthole, F29 area (disk 1) 1 matrix sample	Total finds: 1
F111	Posthole, F29 area (disk 1) 1 ceramic (1 pot) 1 matrix sample	Total finds: 2
F112	Posthole, F29 area (disk 2) 1 Bflint 1 matrix sample	Total finds: 2
F113	Posthole, F29 area (disk 1) 1 matrix sample	Total finds: 1
F114	Posthole, F29 area (disk 2) 1 Bflint 1 matrix sample	Total finds: 2
F115	Posthole, F29 area (disks 1 & 2) 20 ceramic (20 pot) 4 Bflint 14 flint waste 1 matrix sample	Total finds: 39
F125	Posthole, not exc, (disk 2) 2 Bflint 1 flint waste	Total finds: 3
F126	Posthole, not exc. (disk 2) 2 flint waste	Total finds: 3
F131	Scoop (disk 2) 4 ceramic (4 pot) 108 Bflint 4 flint waste 2 matrix samples 1 wood charcoal	Total finds: 119
F135	Scoop (disk 2) 1 ceramic (1 pot) 7 Bflint 2 flint waste 1 matrix sample 5 wood charcoal	Total finds: 16

F136	No feature no finds	Total finds: 0
F167	Posthole cutting F56 gully no finds	Total finds: 0
F172	IA enclosure gully (see also F56) (disk 2) 55 ceramic (55 pot) 28 Bflint 23 flint (21 waste, 2 implements) 3 matrix samples 21 wood charcoal 1 organic (nut) 1 daub (structural) 1 metal (slag) 1 bone (h) cremation (from F57)	Total finds: 134
F188	Medieval ditch (see also F59) (disks 2, 3, 4) 16 ceramic (15 pot, 1 fired clay) 21 Bflint 42 flint (41 waste, 1 implement) 3 matrix samples 1 metal (nail) 1 glass (bottle sherd)	Total finds: 84
F198	Ditch (see also F274-277) (disk 2) 7 ceramic (7 pot) 2 Bflint 15 flint waste 5 wood charcoal 1 coal	Total finds: 30
F201	Scoop, not excavated (disk 2) 1 Bflint 7 flint waste 1 matrix sample 1 bone (a) (rabbit)	Total finds: 10
F202	Posthole cutting F93 (disks 1 & 2) 1 ceramic (1 pot) 4 Bflint 1 matrix sample	Total finds: 6
F203	Pit (disk 2) 35 ceramic (34 pot, 1 fired clay) 87 Bflint 16 flint waste 3 matrix samples 1 metal (slag)	total finds: 142
F224	Medieval bank (disks 1 & 2) 53 ceramic (48 pot, 5 fired clay) 28 Bflint 27 flint waste 5 matrix samples 1 wood charcoal 1 metal (Fe) unidentified 1 metal (slag)	

	2 shells	Total finds: 118
F228	Posthole (disk 2) 6 ceramic (6 pot) 1 flint waste 2 matrix samples	Total finds: 9
F231	Cremation, Mound 18 (see also F57) (disk 2) 1 ceramic (1 pot) 222 matrix samples 7 bone (h) cremation 1 bone (o) comb 1 metal (Ae) brown fragment	Total finds: 232
F232	Posthole, F29 area (Disks 1 & 2) 4 ceramic (4 pot) 1 Bflint 1 flint waste 6 matrix samples 1 wood charcoal	Total finds: 13
F233	Posthole cutting F56 (disk 2) 1 ceramic (1 pot) 1 matrix sample	Total finds: 2
F239	Pit, not excavated (disk 2) 7 ceramic (7 pot) 1 flint waste	Total finds: 8
F240	Posthole cutting F56 (disk 2) 1 flint waste	Total finds: 1
F257	Posthole cutting F222 (disk 2) 1 Bflint 1 flint waste 1 matrix sample	Total finds: 3
F258	Posthole, F29 area No finds	Total finds: 0
F262	Posthole cut by F203 (disk 2) 6 ceramic (2 fired clay, 4 pot) 4 Bflint 1 flint waste 1 matrix sample 4 wood charcoal	Total finds: 16
F263	Posthole cut by F203 (disk 2) 1 matrix sample	Total finds: 1
F264	Posthole, F29 area (disk 2) 1 ceramic (1 pot) 1 matrix sample	Total finds: 2
F265	Posthole, F29 area (disk 2) 1 matrix sample	Total finds: 1

F266	Posthole cutting F56 (disk 2) 1 matrix sample	Total finds: 1
F269	Posthole cutting F172 (disk 2) 1 matrix sample	Total finds: 1
F270	Posthole cutting F172 (disk 2) 1 matrix sample	Total finds: 1
F271	Postholes in base of F172 (disk 2) 1 ceramic (1 pot) 2 matrix samples	Total finds: 3
F272	Posthole cutting F56 (disk 2) 1 ceramic (1 pot) 1 matrix sample	Total finds: 2
F273	Posthole cutting ditch F188 (med.) (disk 2) 1 Bflint 1 flint waste 1 matrix sample	Total finds: 3
F274	Gully, part of ditch F198 (disk 2) 1 ceramic (1 pot) 1 wood charcoal 1 matrix sample	total finds: 3
F275	Gully, part of ditch F198 (disk 2) no finds	Total finds: 0
F276	Posthole along gully F274 (disk 2) 1 matrix sample	Total finds: 1
F277	Posthole along gully F274 (disk 2) 1 matrix sample	Total finds: 1
F278	No feature (burrow) no finds	Total finds: 0
F279	Postholes in base of F56 (disk 2) no finds	Total finds: 0
F280	Natural scoop under ditch F198 (disk 2) 4 matrix samples	Total finds: 4
F282	Plough furrow, Horizon 1 (disk 3) 1 Bflint 1 matrix sample	Total finds: 2
F283	Posthole with daub (disk 3) 14 (11 pot, 3 fired clay) 2 Bflint 1 flint waste 2 wood charcoal	Total finds: 19
F284	IA gully running E-W (disk 3) 17 ceramic (13 pot, 4 fired clay)	

	9 Bflint 3 flint waste 5 matrix samples 2 daub (structural) 1 wood charcoal	Total finds: 37
F285	Scoop or no feature, Horizon 1 (disk 3) 1 ceramic (1 pot) 1 Bflint	Total finds: 2
F286	IA gully running N-S (disk 3) 6 ceramic (5 pot, 1 fired clay)	Total finds: 6
F287	Quarry pit of Mound 5 (disks 3 & 4) 82 ceramic (81 pot, 1 fired clay) 73 Bflint 93 flint (92 waste, 1 implement) 12 matrix samples 2 wood charcoal	Total finds: 262
F288	Quarry pit of Mound 5 (disks 3 & \$) 3 ceramic (3 pot) 11 Bflint 7 flint waste 1 matrix sample	Total finds: 22
F291	Quarry? or no feature, Horizon 1 (disk 3) 1 flint waste	Total finds: 1
F292	Posthole or scoop (disks 3 & 4) 9 ceramic (9 pot) 10 Bflint 10 flint (9 waste, 1 implement)	Total finds: 29
F298	Posthole? no finds	Total finds: 0
F318	Grave, Mound 17 (disks 3 & 4) 173 ceramic (170 pot, 3 fired clay) 65 Bflint 85 flint 221 matrix samples 1 wood charcoal 1 wood 14 metal (9 Fe, 5 Ae) 5 textile 1 leather 1 bone (o) comb 2 bone (a) 1 tooth	Total finds: 570
F319	Horse grave (disks 3 & 4) 45 ceramic (42 pit, 3 fired clay) 26 Bflint 34 flint waste 4 matrix samples 6 wood (structural?)	

	4 organic (body) samples 2 bone (a) horse (see also F355) 1 wood charcoal	Total finds: 122
F321	Pit (disks 3 & 4) 9 ceramic (9 pot) 17 Bflint 4 flint waste 7 matrix samples 2 wood charcoal 1 bone	Total finds: 40
F330	Rectangular feature (IA gully?) (disk 4) 2 ceramic (2 pot) 5 Bflint 8 flint waste 3 matrix samples 3 wood charcoal	Total finds: 21
F336	(disk 3) 9 ceramic (9 pot) 2 Bflint 1 flint waste	Total finds: 3
F337	(disk 3) 2 ceramic 1 flint waste	Total finds: 3
F338	Medieval bank (F224). Not excavated as a feature, trowelled in spits. Finds with floating contexts	
F346	No finds	Total finds: 0
F347	Coffin in quarry pit F287 (disk 4) 18 wood (structural)	Total finds: 18
F348	Wooden board in quarry pit F287 no finds	Total finds: 0
F349	Grave cut in quarry pit F287 (disk 4) 1 matrix sample	Total finds: 1
F350	Posthole cutting F330 (disk 4) 2 matrix samples	Total finds: 2
F351	Body in quarry pit F287 (disk 4) 11 organic (body) samples	Total finds: 11
F352	Wooden board in quarry pit F287 (disk 4) 2 wood (structural)	Total finds: 2
F353	Tub in grave F318, Mound 17 (disk 4) 1 matrix sample	Total finds: 1

F355	Horse in grave F319 (disks 3 & 4) 8 matrix samples 11 organic (body) samples 40 bone (a) (horse)	Total finds: 59
F356	Coffin in grave F318, Mound 17 (disk 4) 11 metal (8 Fe, 2 Ae, 1 other) 12 matrix samples 2 wood (structural) 1 wood charcoal 1 garnet 1 glass inlay	Total finds: 28
F357	Posthole in grave F318, Mound 17 3 matrix samples	Total finds: 3
F358	Bridle in grave F318, Mound 17 (disk 4) 57 metal (30 Fe, 24 Ae, 1 Ag, 2 other) 4 matrix samples 6 leather 3 organic 1 wood	Total finds: 71
F359	Body in grave F318, Mound 17 (disk 4) 12 bone (h) 1 organic	Total finds: 13
F360	Leather bag in grave F318, Mound 17 (disk 4) 1 matrix sample	Total finds: 1

Table 10: Intervention 48 Finds Population in Floating Contexts

1000	turf and topsoil (disks 1 & 2) 10 ceramic (9 pot, 1 tile) 166 Bflint 87 flint (5 implements) 52 metal	Total finds: 315
1001	ploughsoil (disks 1 & 2) 91 ceramic (83 pot, 6 fired clay, 1 tile, 1 claypipe) 172 Bflint 127 flint (6 implements) 16 metal 1 stone	Total finds: 412
1010	remnant of ploughsoil over F6 (disk 1) 2 ceramic (2 pot) 1 flint waste	Total finds: 3
1016	remnant of ploughsoil, Quad F no finds	Total finds: 0
1027	buried soil, Quad D (discs 1 & 2) 21 ceramic (21 pot) 10 Bflint 6 flint (2 implements) 1 matrix sample	Total finds: 38
1028	buried soil, Quad C (disk 1) 26 ceramic (25 pot, 1 tile) 20 Bflint 12 flint (1 implement)	Total finds: 58
1056	buried soil, Quad B (disk 1) 98 ceramic (96 pot, 1 fired clay, 1 tile) 42 Bflint 29 flint waste 3 wood charcoal 1 metal (Ae, probably from F57 area)	Total finds: 173
1058	buried soil, Quads L & K (disk 1) 2 ceramic (2 pot) 13 Bflint 15 flint (15 implements) 1 metal 1 matrix sample	Total finds: 32
1089	buried soil patch, Quad K (disk 1) 1 ceramic (1 pot) 6 Bflint	Total finds: 7
1121	definition spit, Quad A, Horizon 1 (disk 1) 23 ceramic (22 pot, 1 fired clay) 17 Bflint 24 flint (1 implement) 1 daub	Total finds: 65

1146	gravel spread, Quad A (disk 1) 5 ceramic (5 pot) 1 Bflint 1 flint waste 1 metal (slag) 1 bone (unidentified) 2 daub 1 matrix sample	Total finds: 12
1161	definition spit to reach Horizon 2, Quad J (disk 1) 8 ceramic (8 pot) 15 Bflint 30 flint waste 1 metal (cartridge) 4 matrix samples	Total finds: 58
1162	definition spit to reach Horizon 2, Quad H (disk 1) 2 Bflint 8 flint waste	Total finds: 10
1163	definition spit to reach Horizon 2, Quad G (disks 1 & 2) 6 ceramic (6 pot) 3 Bflint 6 flint waste 2 metal (slag) 1 wood charcoal	Total finds: 18
1164	definition spit to reach Horizon 2, Quad L (disks 1 & 2) 2 ceramic (2 pot) 2 Bflint 2 flint waste	Total finds: 6
1165	definition spit to reach Horizon 2, Quad K (disks 1 & 2) 5 ceramic (5 pot) 7 Bflint 10 flint waste (1 implement)	Total finds: 22
1197	topsoil in 154 baulk, Quad L (disk 1) 1 metal (bullet)	Total finds: 1
1198	ploughsoil in 154 baulk, Quad L (disk 1) 1 flint waste 1 glass (bottle sherd)	Total finds: 2
1199	buried soil in 154 baulk, Quad L (disks 1 & 2) 31 ceramic (31 pot) 29 Bflint 9 flint waste 3 matrix samples	Total finds: 72
1200	top of Horizon 2 in 154 baulk, Quad L no finds	Total finds: 0
1207	topsoil in 154 baulk, Quad K (disk 1) 1 Bflint	Total finds: 1
1208	ploughsoil in 154 baulk, Quad K (disk 1)	

	3 Bflint 1 flint waste	Total finds: 4
1209	buried soil in 154 baulk, Quad K (disk 1 & 2) 77 ceramic (77 pot) 45 Bflint 21 flint waste 5 matrix samples	Total finds: 148
1210	top of Horizon 2 in 154 baulk, Quad K no finds	Total finds: 0
1212	feature fill? in 154 baulk, Quad K (disk 1) 1 ceramic (1 pot)	Total finds: 1
1214:	topsoil in 154 baulk, Quad J (disk 1) 1 Bflint	Total finds: 1
1215	ploughsoil in 154 baulk, Quad J (disk 1) 6 Bflint 1 flint (1 implement)	Total finds: 7
1216	buried soil in 154 baulk, Quad J (disks 1 & 2) 84 ceramic (83 pit, 1 tile) 81 Bflint 27 flint (1 implement) 7 matrix samples 1 wood charcoal 1 metal (slag)	Total finds: 201
1217	top of Horizon 2 in 154 baulk, Quad J no finds	Total finds: 0
1257	natural spread, Quad K (disk 2) 2 Bflint 1 matrix sample	Total finds: 3
1299	top of Horizon 2 in 154 baulk, Quad J no finds	Total finds: 0
1300- 1303	turf, topsoil and bank make-up in 154 baulk, Quad H	Total finds: 0
1315	topsoil in 154 baulk, Quad H no finds	Total finds: 0
1316	ploughsoil in 154 baulk, Quad H no finds	Total finds: 0
1317	gravel spread in 154 baulk, Quad H (1146) (disk 2) 3 ceramic (3 pot) 17 Bflint 13 flint waste 8 matrix samples	Total finds: 41
1318	top of Horizon 2 in 154 baulk, Quad H no finds	Total finds: 0

1354	definition spit to reach Horizon 2, Quads M & N (disk 2) (= track) 19 ceramic (9 pot, 4 tile, 2 brick, 2 fired clay, 2 clay pipe) 18 Bflint 16 flint (1 implement) 57 metal (42 wire, 8 nails, 2 ammunition, 2 unid. 3 slag) 1 bone (a) (rabbit) 1 tooth (carnivore) 5 coal 7 matrix samples	Total finds: 124
1408- 1410	contexts allocated to topsoils in 143 section, Quads L & K no finds	Total finds: 0
1458- 1460	contexts allocated to topsoils in 143 section, Quads M & N no finds	Total finds: 0
1461	ploughed buried soil in Quads O, P, Q, R, S (disk 2) 43 ceramic 54 Bflint 42 flint waste 1 daub	Total finds: 140
1462	definition spit in Quads O, P, Q, R, S (buried soil at Horizon 1) (disks 2 & 3) 97 ceramic (94 pot, 1 tile, 1 fired clay, 1 spindle whorl) 169 Bflint 80 flint (3 implements) 4 wood charcoal 1 daub	Total finds: 351
1471	definition spit in Quads O, P, Q (= buried soil) (disk 3) 69 ceramic (67 pot, 1 fired clay, 1 unid.) 51 Bflint 40 flint (1 implement)	Total finds: 160
1472	definition spit in Quads R, S (= buried soil) (disk 3) 1 Bflint (the rest recorded with context 1479)	Total finds: 1
1473	definition spit in Quads O, P, Q (= buried soil) (disk 3) 171 ceramic (166 pot, 5 fired clay) 87 Bflint 68 flint (1 implement) 2 wood charcoal	Total finds: 328
1476	Rabbit disturbance over F318-319, Quads P & Q, Horizon 1 no finds (trowelled in spits 1462,	

1479, 1473)		Total finds: 0
1479	definition spit in Quads R, S (= buried soil) (disk 3) 71 ceramic (65 pot, 6 fired clay) 54 Bflint 16 flint (1 implement) 1 wood charcoal 1 daub	Total finds: 143
1508	definition spit in Quads O, P, Q (= buried soil) (disc 3) 369 ceramic (351 pot, 18 fired clay) 165 Bflint 134 flint (2 implements) 9 wood charcoal 2 bone (a) (rabbit)	Total finds: 679
1512	definition spit in Quads O, P, Q (= buried soil) (disks 3 & 4) 157 ceramic (154 pot, 3 fired clay) 78 Bflint 41 flint waste 3 charcoal 1 daub	Total finds: 281
1550	definition spit in Quad O (= buried soil under bank) (disks 3 & 4) 2 ceramic (2 pot) 1 Bflint 2 flint waste 1 matrix sample	Total finds: 6
Total finds in floating contexts	3924	
(Total finds in features	4116)	
(No finds or finds without contexts	317)	
(Total	8357)	

Table 11: Int. 48, Finds Summaries

Total ceramic (pottery) in floating contexts:	1433	
Total ceramic (pottery) in features:	1162	
Total ceramic (pottery) without context:	56	
TOTAL POTTERY	2651	
Total ceramic (others) in floating contexts:	61	
Total ceramic (others) in features:	46	
TOTAL CERAMIC (NON-POT)	107	
TOTAL OF ALL CERAMIC	2758	
Total Bflint in floating contexts:	1338	
Total Bflint in features:	1088	
TOTAL BFLINT	2356	
Total flint in floating contexts:	870	(27 imp., 843 waste)
Total flint in features:	656	(8 imp., 648 waste)
Total flint without context:	9	
TOTAL FLINT	1535	(35 implements)
Total matrix samples in floating contexts:	39	
Total matrix samples in features:	705	
Total matrix samples without contexts:	12	
TOTAL MATRIX SAMPLES	756	
Total metal in floating contexts (mostly modern but also 2 ship rivets & 1 piece of bronze bowl in 1056, probably derived from cremation F57/F231 under Mound 18):	133	
Total metal in features:	115	
Total metal without context:	5	
TOTAL METAL	253	
Total bone from floating contexts:	5	(3 rabbit,tooth,unid.)
Total bone from features:	238	
TOTAL BONE	243	
The bones from features consist of:		
44 horse bones (42 from F319/355, 2 from F29)		
8 various animal bones		
171 cremated human bones from F57/231 and adjacent features		
12 inhumed human bones from body F359 in grave F318, Mound 17		
3 bone objects from F57/231 and F318 (bone comb and frags)		
Total wood charcoal from floating contexts:	24	
Total wood charcoal from features:	96	
TOTAL CHARCOAL	120	
TOTAL WOOD from features:	30	
(ie graves F318, F319 and with body in quarry pit F287)		
TOTAL ORGANIC (BODY) remains in features:	27	
(from human inhumation and horse burial F318 in Mound 17)		

Total daub in floating contexts: (1121, 1146, 1461, 1462, 1479, 1512)	7
Total daub in features: (F14, 29, 56, 57, 172, 284)	7
TOTAL DAUB	14
TOTAL LEATHER in features: (in F318 and F358, Mound 17)	7
TOTAL VITRIFIED SAND from F57:	7
TOTAL ORGANIC remains in features: (2 seeds F13, 1 nut F172, 3 unidentified org. from bridle complex F358)	6
TOTAL TEXTILE remains in feature F318:	5
TOTAL COAL from context 1354:	5
TOTAL SANDSTONE (context 1001, F11):	2
TOTAL SHELLS (F224)	2
TOTAL GLASS BOTTLE from contexts 1198 and F188:	2
GLASS INLAY in coffin F356 in grave F318, Mound 17	1
GARNET in coffin F356 in grave F318, Mound 17	1
Summary	
Ceramic	2758 (2651 pot, 107 others)
Burnt Flint	2356
Flint	1535 (1500 waste, 35 implements)
Matrix	756
Metal	253
Bone objects)	243 (171 crem. human, 12 human, 57 animal, 3 bone
Wood charcoal	120
Wood residue	30
Organic (body) residue	27
Daub	14
Leather	7
Sand	7
Organic (various)	6
Textile	5
Coal	5
Sandstone	2
Shells	2
Glass bottle	2
Glass inlay	1
Garnet	1
No finds	227
TOTAL:	8357

Table 12: FLINT IMPLEMENTS FOUND IN FLOATING CONTEXTS & IN FEATURES

Context 1000:	3 scrapers 1 roughout 1 misc. ret.
Context 1001:	2 scrapers 3 misc. ret. 1 blade
Context 1027:	1 scraper 1 misc. ret.
Context 1058:	1 misc. ret.
Context 1121:	1 misc. ret.
Context 1165:	1 misc. ret.
Context 1215:	1 scraper
Context 1216:	1 scraper
Context 1354:	1 scraper
Context 1462:	1 scraper 1 misc. ret. 1 blade
Context 1471:	1 scraper
Context 1473:	1 scraper
Context 1479:	1 arrowhead
Context 1508:	2 scrapers
F29, pit:	1 scraper 1 misc. ret.
F90, pit:	1 arrowhead
F172, IA gully:	1 roughout 1 unidentified
F188, med.ditch:	1 scraper
F287, quarry pit:	1 knife
F292, scoop or PH, Mound 17 area:	1 scraper
Total implements from Intervention 48: 35, consisting of	
17 scrapers	
10 miscellaneous retouched	
2 blades	
2 roughouts	
2 arrowheads	
1 knife	

1 unidentified implement.