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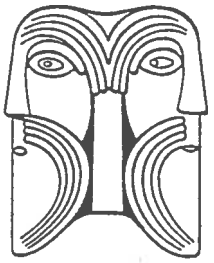

A PRE-ALLUVIAL FIELD SYSTEM AT OLD WINDSOR
EXCAVATIONS AT WINDSOR SEWAGE TREATMENT WORKS

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by

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Summary: Archaeological work in advance of improvements at Old Windsor Sewage Treatment Works showed part of an enclosure system in use in the Roman period, in an area of Neolithic and Bronze Age activity. The field ditches extended part way down the scarp of a minor terrace of the flood plain gravel, and in one place across a hollow on the adjoining the flood plain. These lower levels of the site became covered with alluvium, a change which seems to have occurred after the middle Roman period and may have been associated with a rise in permanent water level. Later phases of cultivation and pastoral land use were also demonstrated. The hydrological changes are discussed in the light of similar observations elsewhere in the Thames Valley.

Site location (Fig.1)

Windsor Sewage Treatment Works is located on a low gravel peninsula on the Berkshire bank of the Thames at Old Windsor, on land separated from the village by a short navigation cut, leaving it as "Ham Island". The present width of the river here is c. 30-45 m and its depth c. 1.30m-3.10 m where dredged. The sewage works are reached from Ham Lane, which leads off the road to Old Windsor church, and the site itself (SU 994 753) is slightly over 0.5 km NE of the church.

This land is shown by the Geological Survey as part of the flood plain of the Thames, but shows a significant scarp across the middle of the site, dropping from a gravel surface of c 16.9 m OD, down to 16.0 m at the southeast, with an intervening trough or hollow down to 15.5 m. OD (see Fig. 3 for gravel contours).

2) Archaeological Background (Fig. 1)

Dr B. Hope Taylor directed a series of excavations south west of Old Windsor Church between 1953 and 1958. He showed densities of residual Roman pottery and tile indicating a settlement between the church and the river (Astill, 1984) and several phases of Saxon settlement SW of the church, on higher ground. The site of a 9th century watermill was investigated, and the associated imported pottery suggested a flourishing estate until the late 11th century. This was assumed to be the royal complex which migrated to New Windsor in 1107. A 13th-14th century building - perhaps a grange - was excavated, but the associated settlement was believed to be on the site of the manor, or close to

the Old Windsor to Staines road (Astill, 1984).

In 1987 the OAU carried out an assessment of the archaeological potential of a plot of ground in Church Road, finding 12th century activity and minor signs of iron working (Mudd 1987).

South west of the church is a Scheduled Area which contains some of the observed cropmarks from the village. Other cropmarks known from Old Windsor include a rectangular enclosure, linear features and a circular cropmark north and NW of the church (Gates, 1975).

3) The Sewage Works Project

Thames Water has a policy of up-dating and increasing its sewage treatment capacity throughout the region, and it proposed to construct eight additional treatment tanks at Old Windsor. This plan was later revised to exclude the most southerly tank sites and one other. Some additional services were to be placed in new trenches. There was also a programme of improvements to the lane, but this involved very little soil excavation.

The project began with an archaeological assessment of the ground to be affected by the proposed tanks, and the results of about 300 m of trenching can be summarised as follows. There was a low gravel terrace forming the core of the Ham Island promontory, with a single-phase field system, at that time undated. The field system extended onto the lower levels on the south side of the site, where it appeared that a ditch had been filled with alluvial silt soon after it was dug, evidently coinciding with a rise in the permanent water table. It was assumed at that stage that the date of the first flooding could lie anywhere within a range from as early as the 2nd millennium BC, as suggested by Dr Mark Robinson for Runnymede, (pers comm), to as late as the construction of the middle Saxon mill at nearby Old Windsor. Despite this broad spread of dates however, it looked as if the site might provide confirmation of major hydrological changes in this part of the Thames Valley.

Shortly after the completion of the assessment, OAU was therefore pleased to be invited to supplement the results with a full archaeological excavation of two areas. The objectives were to find more of the field system, establish its date, and provide a better understanding of the major flood deposit previously noted, because of its possible relevance to other archaeological sites in the Middle Thames valley.

THE EXCAVATIONS

METHODS (Fig. 2)

The assessment work was carried out using a JCB with a toothless ditching bucket, excavating long straight trenches across each area proposed for new tanks, except for the extreme north of the site where old filter beds were considered to be too hazardous to excavate, and where most of the historic

ground surface was likely to have been removed already. There followed a full excavation of two areas, Trenches 6 and 7, which were stripped mechanically to the surface of the natural gravel using a 360° tracked machine,this time using a toothed bucket for the overburden and reserving the ditching bucket for the lower deposits. Features were then cleaned by hand, and segments of each were hand-excavated to demonstrate stratigraphic relationships and recover artifacts and samples. The sides of the trench were examined carefully, and the east baulk of Trench 6 was recorded in detail to give a section through the deposits. Samples were taken from selected features and layers for flotation and sieving. Recording was based on a site grid related to the axis of two treatment tanks, and correlated with the 0.S National Grid.

RESULTS: ASSESSMENT EXCAVATIONS: TRENCHES 1-5 (not illustrated, see assessment report)

Trenches 1 and 4 showed a putative river channel (1/4, 4/1) aligned north-south, filled with a mid-brown sandy clay on top of dirty gravel. The east bank was steeper than the west, the bed being at 15.47 m OD. Bone and flint flakes were recovered from the silt. A linear ditch 4/2 was found in the floor of the channel, cutting into the red/brown sandy clay forming the bed (4/1/2), but sealed by the dark grey sandy clay alluvial channel silts (4/1/1). The upper ditch-fill was a blue grey clay, gleyed below 15.52 m. OD, overlying an un-gleyed grey brown sandy clay primary silt (4/2/1) down to the ditch bottom (15.27 m.OD).

There were also several alluvium-filled natural hollows in the gravel to the east of this channel (average height of gravel c.16.00 m OD).

Trench 2 was in the northern part of the assessment area, where a layer of recently made-up ground was observed beneath the topsoil. Towards the southern end of the trench, the made up ground appeared to get deeper i.e. the gravel started to slope away southward to 16.54m OD at the end of trench. Two gullies were located here (2/1) and (2/2) with near vertical sides and rounded bottoms, filled with dark grey/brown sandy silt. No finds were recovered from either gully.

Trenches 3 and 5 showed a layer of red/brown sandy clay to the west, beneath the made up ground and on top of the gravel (16.86 m OD), with no evidence of ploughing. It was absent at the eastern end of Trench 3 where the soil profile was like that observed in the northern end of Trench 2 (level of gravel 16.72 m OD). The only archaeological feature located was a linear ditch running east-west (3/1).

THE AREA EXCAVATIONS: TRENCH 6 (Fig. 3)

Mechanical excavation removed thick modern levelling deposits over the east and SE of Trench 6, a much greater quantity of overburden than the assessment had indicated. Most of the western part of this trench was found to have been disturbed by an interconnecting series of narrow trenches cut well down into the natural gravel. These were interpreted as small modern borrow pits for levelling and metalling of the adjoining access road. In addition to this vertical gravel extraction, it appeared that the ground surface had been truncated by the removal of superficial deposits, perhaps to infill the borrow pits. No indications of any archaeological features remained in this part of the site.

Stratigraphy of the South and East Baulk Sections (Fig. 5)

On the south and east of Trench 6 the recently redeposited soil and gravel sealed a layer of buried post-medieval and modern topsoil (103). Below this was a thick deposit of light brown silt loam (104) which was sandier towards the centre-west of the site, and clayier towards the SE. This was assumed to be an alluvial flood deposit of late medieval or post medieval date. A grittier soil (116) below it produced medieval pottery, and was interpreted as a phase of cultivation above an underlying clay loam alluvium (117). The east section showed some fluctuations in the cultivation layer, which might be the remains of medieval ridge-and-furrow cultivation, perhaps running

obliquely to the baulk, but the exposed stretch was too short to determine its profile.

Beneath this cultivation horizon, the layer of alluvium 117 was similar in depth to the upper deposit (104). It had filled the last recut of a Roman enclosure ditch (113) and covered the land surface over much of the trench. It differed from the upper alluvium layer in being clayier and containing a few small stones.

Excavated features (Fig. 3, 5)

Towards the NE edge of the excavated area, a V-shaped ditch (113) had various dark brown fills, mostly silted from the north-west side, which may indicate a bank on this side. Where this ditch met the east baulk the section seemed to show the profile of a shallow, round-bottomed recut on its south side, with a thinner dark fill and alluvium 117 above this. The putative recut could not be demonstrated further south however, nor at its junction with ditch 112. On the lower ground to the east only two features were investigated - a small post hole (131), and a circular pit (128) close to the south limit of the excavation. Pit 128 was not related stratigraphically to other features, but contained Roman pottery and tile fragments in small quantities.

Ditch 113 seemed to cut through an earlier ditch (112), running NNE-SSW and rather straighter, and which may have been an earlier boundary of the same enclosure. The stratigraphic relationship between two ditches was complicated by the shallowness of 113, and to the south a patch of hard gravel showed through from beneath both which meant that the sequence could only be confirmed at the north end of the intersection. It will be suggested below that the slightly confused nature of the stratigraphy at this point resulted from the infilling of at least one of the ditches at this point to create an entry.

For much of its course the earlier ditch 112 ran parallel to and about 2 m to the east of a series of stretches of small gullies, part of (110), (129), (138) and (134). Their appearance suggested that they were the intermittent survivors of a single recut ditch, with a 4 m wide entry to the north suggested by terminals of gullys 109, 110 and 229. The entire width of this putative entrance was blocked by a deep, broad pit (111), perhaps a water source, cutting the terminal of 110 (see Fig. 000). Paired gullies 109 and 110 running northwest from this point may imply two phases to this boundary, and similarly the recut (138) of the southern end 134 of this gully system.

A small isolated pit (107), containing many charcoal fragments with a few small pieces of animal bone and a sherd of Iron Age pot, was the only feature located within the enclosure formed by the angle of these gullies (Enclosure SW). Two features were however found to be cut by these earlier ditches, ie one of the stretches of E-W gully (110) cut a small, shallow feature (126), of unknown date or function; the N-S enclosure ditch (112) cut through an irregular pit (?114) which may have been dug for gravel.

Enclosure ditch 112 was stratigraphically the earliest feature to cut a general layer (118), which extended over the east and southeast part of Trench 6. It consisted of dark yellowish brown loamy clay with frequent small to medium stones and gravel, charcoal flecks and numerous small sherds of Late Bronze Age pottery. During machine excavation frequent pieces of Roman roof tile were recovered from this layer in the NE part of the trench. They may have been intrusive in this context, but their distribution alone may imply a building to the northeast. The building material included a single fragment of very worn box tile.

This general layer 118 contained more gravel than that beneath it (105), but may represent a similar soil in a cultivated state. This putative cultivation was only noted in the lower part of the site, towards the east and SE, and it may be significant that there was no correlation observed between the extent of this layer and the enclosure boundaries. Beneath it the less gravelly layer 105 produced numerous burnt flints, small fragments of Late Bronze Age pottery and a few worked flint tools of Neolithic date. It was restricted to the lower part of the site and was not present to the west of the terrace slope, even where a complete soil profile existed.

TRENCH 7 (Fig. 2)

A second, smaller area to the NW of trench 6 was excavated by machine to natural gravel. As with Trench 6, it showed spread of modern material with re-deposited gravel. Below this presumed ground levelling and make-up, the former ploughed soil survived, as (103) in Trench 6.

This recent field surface sealed a mid brown silt with little gravel, which was interpreted as a post glacial soil. No soil was distinguished in section in Trench 7 between this deposit and natural gravel. No archaeological features were present, and the trench size was consequently reduced.

THE FINDS AND SPECIALIST REPORTS (none illustrated)

Pottery

The excavation produced a total of 77 sherds. For the prehistoric material there were no diagnostic profiles from stratified deposits, and the material was therefore dated on the evidence of the fabrics with reference to material from recent excavations at Dorney and Reading Business Park (pers comm. T Allen, J Moore). The were frequent but fragmented sherds of flint tempered Late Bronze Age pottery (with some possibly Middle Bronze Age), of which one sherd may be from a contemporary context (107), while those from 105, 118, 125, 127 and 135 are assumed to be residual in later deposits.

A small number of Late Iron Age sherds were found, again mainly in residual contexts (113, 120, 112) although the two sherds from layer 105 may be indicative of an Iron Age date. They were hand made, and some fragments contained alluvial material and shell.

The ploughed surface 118 above this was dated to the Roman period by a single mortarium sherd, and two sherds of Roman coarseware were found in the early enclosure ditch (112). A further coarseware sherd came from the pit 111 blocking the entrance in the southwest enclosure and another from the overlying layer 116. Two of these sherds were possibly of Silchester ware (J Moore, pers comm).

There was no pottery diagnostic of the Saxon period, and the earliest medieval pottery was a small number of fragments of a white sandy fabric, probably of the 13th century, from layers 104 and 123.

Flint

The flint finds were examined by A G Brown. He noted that the earlier contexts were producing flakes and blades of early Neolithic type (SF 6, 107/2; SF 2 and 3, 105; SF 11, 109). Amongst these was a mesolithic core (SF 1, 105) which contrasted with all the remaining flint in having a white cortex. The flint from the assessment trenches included a very crude flake which he believed to be Iron Age or later (4/1/3).

Amongst post-medieval finds from the later levels in Trench 6 came a scraper of mid-late neolithic type (SF 10, 103), and a damaged neolithic flake (SF 7, 108), while the unstratified finds from the mechanical excavation included a

damaged flake and part of an early neolithic laurel-leaf flake (SF 5, SF 4, 101)

Flint pebbles made up a large component of the local gravel, and distinctive burnt and shattered flints were found scattered over the eastern half of Trench 6. They were very frequent within layers (118), (119) and (105). A concentration of these burnt flints was present within pit (107), where a 7% sample produced flints of weight 1kg.

Stone

Two adjoining, recently broken fragments of a flattish lump of red sandstone were found within pit 114, which may have been part of a quern.

Coin

The only metalwork from the site was an unidentifiable copper alloy coin, diameter 19mm, from the fill of post-medieval pit 108. It was probably 3rd-4th century Roman (C. King, pers comm).

Organic Materials

A single small piece of wood, 55 x 70 x 15 mm was recovered from the lowest fill of the pit or well 111, but too decayed for species identification, nor to tell its function. The provenance level was c 15.00 m OD, lower than any other part of the site. Otherwise carbonized wood fragments were noted from several contexts, but there was no evidence of cereal grains.

Molluscs

Examination of soil samples by Dr. Mark Robinson confirmed that mollusc remains were absent from those parts of the site sampled.

Soils

Soil samples taken from layers 104 and 117 by the east baulk of Trench 6 were briefly examined by Dr. Robinson. He concluded that these layers were produced by different processes. Layer 104 contained a higher proportion of angular fine gravel of a size considered too large for the usual overbank transportation by river flow. This layer perhaps comprised ploughed-worked material and alluvium which subsequently experienced worm sorting during a stable, perhaps grassland, phase.

Layer 139, a light orange brown sandy silt with few stones, was present in Trench 7 and probably also part of the west side of Trench 6. It is likely to be a relic of post-glacial soil, and may be related to a similar but yellower layer in a hollow on the floodplain (Assessment 4/1/2). Layer 117 comprised fine material consistent with an alluvial source.

Layer 105 represented primary soil formation on the gravel terrace, in a cultivated and worm-sorted state. A later cultivated soil layer was 116.

DISCUSSION AND CONCLUSIONS

Old Windsor has an important place in the history of the English kings. It is not a conspicuously good defensive site, but may well have effectively controlled trade and traffic on the Thames in peacetime, before the move to the much better endowed site at (New) Windsor in 1107. A manor house or 'palace' in the area of Old Windsor church would have looked upstream to a sweep of the river round a low island of gravel, the ham of Ham Island, and it was this sweep which seems to have created the head of water exploited by the mill site excavated in the 1950s. So it is very significant to the background of the royal vill to know the history of agrarian usage of this large and probably fertile land, well protected in the loop of the river, and to consider what effects a change in river level might have had.

Ham Island is seen to be a low terrace of the Thames gravels, sloping down to the floodplain in the area of the recent excavations. The slight 'hollow' in the surface of the lower gravel seems to have functioned as a river channel following round parallel to the main channel, but clearly it only began to carry water after the major rise in river level, and before this it would have been no more than a slight undulation at the foot of a none to pronounced terrace. The alignment of the ditches of the field system suggest that they may be an extension of those known from aerial survey in the area immediately to the west, and full excavation has now confirmed that the enclosures are not restricted to the higher gravel, but extended at least to the edge of the floodplain at a time before flooding and deposition of alluvium took place. Most of the new evidence comes from the area excavation Trench 6, with a body of prehistoric finds, and with the placing of the excavated enclosure ditches in a firm stratigraphic framework.

Prehistoric Activity

Neolithic flints and Bronze Age pottery were confined to Trench 6, and particularly to the lower parts of the gravel slope, where they were found with quantities of burnt flint. Although the burnt flint may be no more significant than the use of pebbles from the gravel for heating in a fire, it is still an indicator of domestic activity, and its presence in pit 107 and throughout layers 118, 119 and 105 is therefore probably indicative of late Bronze Age activity close by. Pit 107 with a Neolithic flint flake is the only feature arguably of this early date, but other Neolithic flints and single middle Bronze Age sherd in a residual context point to prolonged earlier activity in the vicinity.

It is possible that other features of this period had been entirely removed by early ploughing, which can be argued from the higher composition of gravel in layer 118 than in the underlying layer 105. Such ploughing might also account for the distribution of small sherds within these layers (118, 119 and 105).

The enclosures (Fig. 4)

The excavation confirmed the evidence for small enclosure ditches as seen in the assessment trenches, and the Trench 6 area showed the intersection of

three alignments which had existed through several phases. For the purpose of argument the presumed enclosures defined by these ditches are identified by their orientation with respect to the point where they intersect, ie the east, the southwest and the northwest enclosures.

Ditch 3/1 noted in Trench 3 matches the alignment of 109 and 110, and since there was no intervening ditch in Trench 2 it must be assumed that this gives an outline to a northwest enclosure of the order of 50 m. wide north-south. Similarly it can be suggested that ditch 4/2 was the south boundary of an east enclosure, and might possibly have continued westwards onto the terrace to form the south boundary of the southwest enclosure also, which would therefore also be of the order of 45-50 m. wide. This provides a model of a system of large regular enclosures, and some detail of the way they developed was given by the succession of ditches in Trench 6, as follows.

Gullies 109 and 110 can be construed as two successive north boundaries of the southwest enclosure. The absence of a stratigraphic relationship between them means it is impossible to say which came first, but there is evidence of a similar renewal of the east side of this enclosure (134-138), and together these would argue for a persistent shape. The parallel alignment of the large ditch running just 2 m. to the east (112) would normally be explained as two contemporary ditches on either side of a field bank, possibly with a hedge. In this case however we have a difficulty in the apparent entrance formed by terminals on the gullies at the northeast angle. The writers are grateful for discussions with George Lambrick and John Moore, who point out that an entry here would need to cross the outer ditch too, and that the logical explanation is that the outer ditch was older, and was in fact partly infilled to make an entry here. This would explain the confused area where the two larger ditches intersect (112, 113).

It will therefore be assumed that the earliest enclosure activity was the creation of a straight ditch alignment along the terrace scarp, marking out the lower ground but only approximating to the line of the contours (112). It perhaps already had a bank on the west side, which was to be respected when a smaller enclosure was formed on this side (109, 134 etc.). There was an entrance at the corner of the new enclosure which must have cut through the bank and infilled the outer ditch on its way to the lower ground. In due course however this entrance was to be blocked by a large pit which perhaps acted as a water hole (111).

This enclosure system was perhaps in decay by the time a later ditch line was created (113). Its line seems to have wandered as it crossed the old boundary at an oblique angle; as it met the internal ditch it backed round briefly to run along its line, before veering to cross the bank at a sharper angle, and then perhaps became shallower as it met the infilling of the entrance across the outer bank. Beyond this it veered away again to the north-east, as if it was following the contour of the edge of the gravel scarp, with the upcast forming a bank to the west as with its predecessor (112). The few finds within these ditches and gullies indicated filling during the Roman period.

Finds of Roman building material from the adjacent layers were regarded as evidence of a building in the vicinity, perhaps along the scarp to the northeast.

A model for the layout of the enclosures has been suggested above, but some attention should be paid to the archaeology of the wider area. One of the enclosure ditches which extended down into a natural hollow to the east (4/2) must indicate that even the depressions on the flood plain were dry enough at this time for the setting out of an enclosure. The fragment of preserved wood, possibly a plank, from a water hole (111) gives an indication of the level of permanent ground water on the site in the Roman period (c. 15.0 m.OD). This would imply that most of the area of Trench 6 was well above water level at this stage, but in due course the enclosure ditch 4/2 was filled with alluvium, and the gleying of this deposit suggests that permanent water had risen by 0.5 m. This is a substantial change which must be connected with the onset of alluviation as described below.

To the west the modern disturbances in the upper part of Trench 6 may have resulted in the loss of shallow archaeological features which might have helped explain the use of the enclosure. A similar absence in the undisturbed Trench 7 perhaps has a different explanation, because the local survival of a depth of original red loam topsoil (139) might argue that this area had been protected by a plough headland or other earthwork.

Alluviation

At a time when some of this enclosure system remained as a slight landscape feature, alluvial silts began to be deposited on the terrace slope below the 16.70m contour. This late or post-Roman alluviation presumably brought to an end the use of the lower end of the enclosures, and the features sealed beneath it give a clear terminus post quem in the Roman period. Assuming it is the same phase of alluviation seen in Trenches 1 and 4 it puts it at the later end of the range of dates suggested in the Assessment Report. The precise date is less easy to determine, but since the last recut of the Romano-British field system was still partly open (113), the first alluviation on this floodplain terrace seems to belong to the later Roman to mid-Saxon period.

A gritty interface in between two layers of silt is taken as evidence that a phase of ploughing followed this alluviation, presumably after the river had stabilised again, and therefore of early medieval date. The grit in this layer is taken to represent material carried down by the plough from the slope of the gravel terrace, implying that this was part of an extensive cultivation, and if the undulations noted in the east section were really an effect of ridge-and-furrow cultivation then the implication is for strip fields tailing off from the slope of the gravel terrace.

Dr Robinson's assessment of the soil types suggests that this medieval cultivation phase was followed by a different type of land use. This may have been pastoral, probably with new deposition of alluvium and some worm sorting during a stable phase of soil formation, dateable to the later medieval or post medieval period.

Conclusions and Wider Implications

The excavations have established that the small peninsula known as Ham Island was certainly occupied during the later Bronze Age and may have had earlier occupation and activity from the Neolithic. An extensive field system was established by the Roman period, and the excavated part can be shown to have developed and then deteriorated. Its demise here was partly due to drowning by a rise in water level on the flood plain, creating a new watercourse which followed round the contour of the terrace edge roughly parallel to the main river to the east. The change is now firmly placed after the mid Roman period, coinciding with a rise in permanent water level of 0.5 m. and the deposition of alluvium. The new silt seems to have stabilised sufficiently for medieval ridge-and-furrow agriculture before the 13th century, followed by a pastoral usage.

Although only a single instance, this evidence for a rise in water level and the onset of overbank alluviation may have a wider significance. The most extensive archaeological survey of overbank alluviation on an English river system was that by Robinson and Lambrick (1984) for the Upper Thames basin. They showed beyond doubt that it was a phenomenon of the last 3000 years, that a large proportion of flood plain soils had been formed in this period, and they suggested that the main process generating these hydrological changes was forest clearance by man, leading to faster run-off. Their time chart illustrated human activity in the catchment as shown by the archaeological record, and compared it with dated alluvial deposits and raised water levels on eight sites. They did not find a clear correlation with the major clearances of the limestone areas in the late Bronze and early Iron Ages, and concluded that the main hydrological changes resulted from Iron Age and Romano-British clearance of the clay slopes, with alluvium in the best-dated example sealing features dating to AD 250-400.

Since that paper went to press there have been new dates for upper Thames alluvium, with the interstratification of an early Roman plough soil at Drayton, Oxfordshire (pers. comm. J Moore), alluviation on the Kennet floodplain at Reading Business Park (2nd century AD, pers. comm. J Moore), and suggestions of much earlier alluviation only 4 km down-stream from Old Windsor at Runnymede (in the second millenium BC pers. comm. M Robinson). The limited dating provided by the Old Windsor site therefore falls within the broad range for both the upper and middle Thames.

Old Windsor therefore provides one datum at the later end of the alluvial range. If however the Runnymede evidence is confirmed, then we have a major contrast between sites only 4 km apart, and this would suggest that the model of blanket deposition over the entire length of the floodplain would need to be tempered with a subsidiary model which accepted the possibility of local effects. There is no doubt that the Thames was depositing alluvium in relict channels and oxbows long before there was any overbank deposition, and the critical question is therefore to ask what sort of event would force the river repeatedly to flow over its flood plain at the sort of low velocities which would allow deposition. Natural events might include beaver dams and land slips where the

flood plain is narrow, but for the prolonged effect that would be needed to give a measurable depth of deposit on a broad flood plain one would need a dam stretching the full width of the flood plain, and a permanent structure in which any breaches were 'self-mending'. The obvious examples are works of man, fish weirs, water mill weirs and bridge causways. Because these are related to human settlement, they are likely to fall within the general date range of deposits as found by Robinson and Lambrick, but instead of a blanket deposit following the gradient of the flood plain, one would anticipate a wedge-pofile deposit upstream of each obstruction.

Recent radiocarbon results suggest that the 'obstruction model' would explain much of the evidence from the flood plain at Oxford, where it appears that there was major middle Saxon engineering which could have been a mill leet for the priory of St Frideswide (Blair 1989, 228-35, Durham 1984, 81). This is one of the few places where there is sufficient data to establish the extent of the obstruction effect, and it is still the subject of lively debate, so it should not be used to prejudice the evidence at Old Windsor. However a local obstruction model would certainly explain why the Old Windsor alluviation was so much later than the onset of major forest clearance, it would explain why it was so much later than Robinson's observations on Runnymede, and datewise it would not exclude a causal relationship with what is one of the earliest excavated Saxon mill sites in England.

If there is a message from the deposit at Ham Island it is therefore that the dating is not unacceptable in the Robinson and Lambrick model of blanket alluviation for the basin as a whole, but that if we are looking for a simple reason why over-bank alluviation on the Thames has such a range of start-dates and why there can be a delay of many centuries between the major period of forest clearance and the first deposition, this new evidence would equally support a model of a local permanent obstruction. With increasing interest in the reestablishment of communications and the economic base in the Dark Ages, the implications of alluvium above Roman features opposite the site of the Saxon mill at Old Windsor are not hard to see.

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All finds are to be deposited, together with the archive, with Reading Museum.

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Illustrations

Fig. 1 Old Windsor and Ham Fields, showing previous excavations and cropmarks.

Fig. 2 Part of Windsor Sewage Treatment Works, Old Windsor,showing 1989 trenches and principal archaeological features.

Fig. 3 Trench 6: all excavated features.

Fig. 4 Trench 6: Phase 1 showing prehistoric features with mature Romano-British field system; Phase 2 showing modified field system and other later Romano-British features.

Fig. 5 North-south section through later field ditch (113) and its recut.

Fig. 6 North-south section through intersection of Pit 111 and Gully 110.

Fig. 7 Trenches 4 and 6 showing contours of gravel surface.

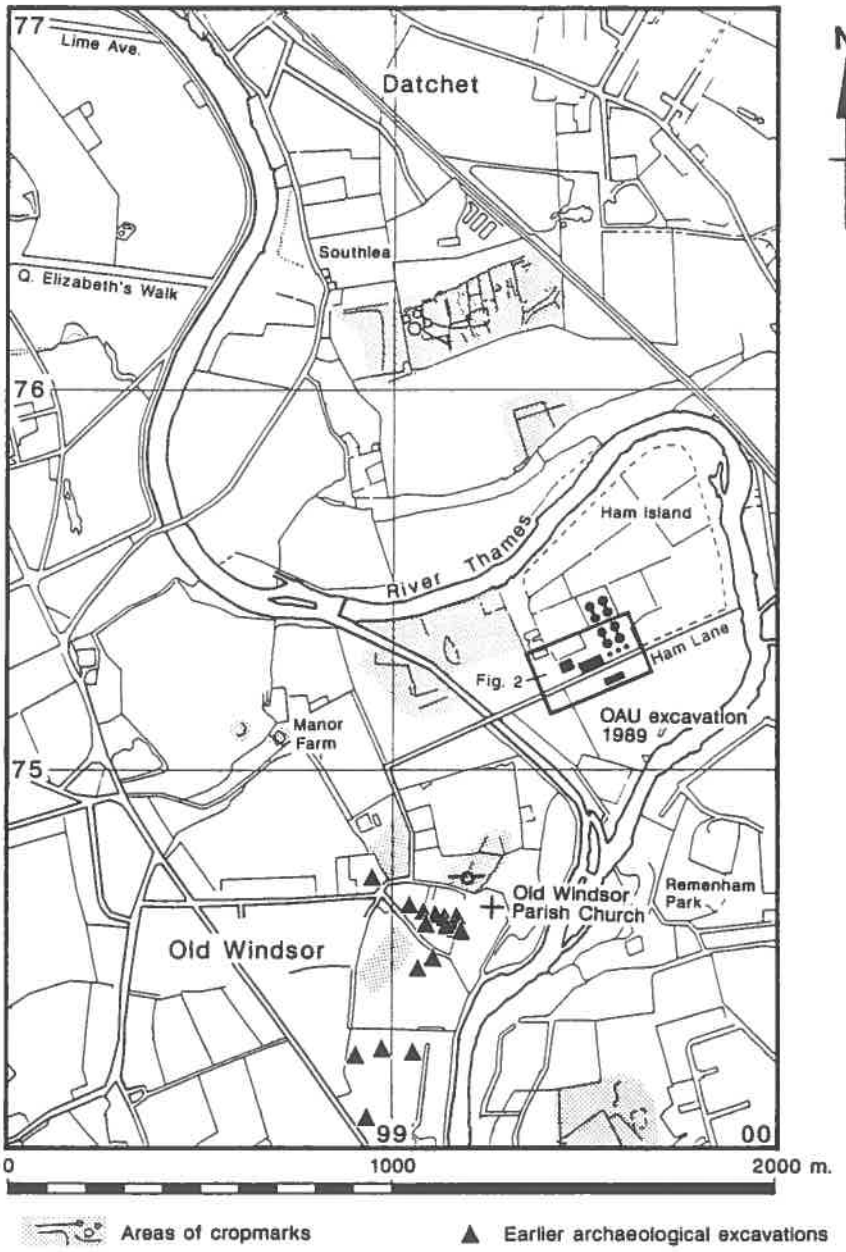

77
Lime Ave.
Datchet
N
Southlea
Q. Elizabeth's Walk
76
Ham Island
River Thames
Ham Lane
Fig. 2
OAU excavation
1989
Manor
Farm
75
Old Windsor
Parish Church
Remenham
Park
Old Windsor
99
00
0
1000
2000 m.
Areas of cropmarks
Earlier archaeological excavations

Fig.1

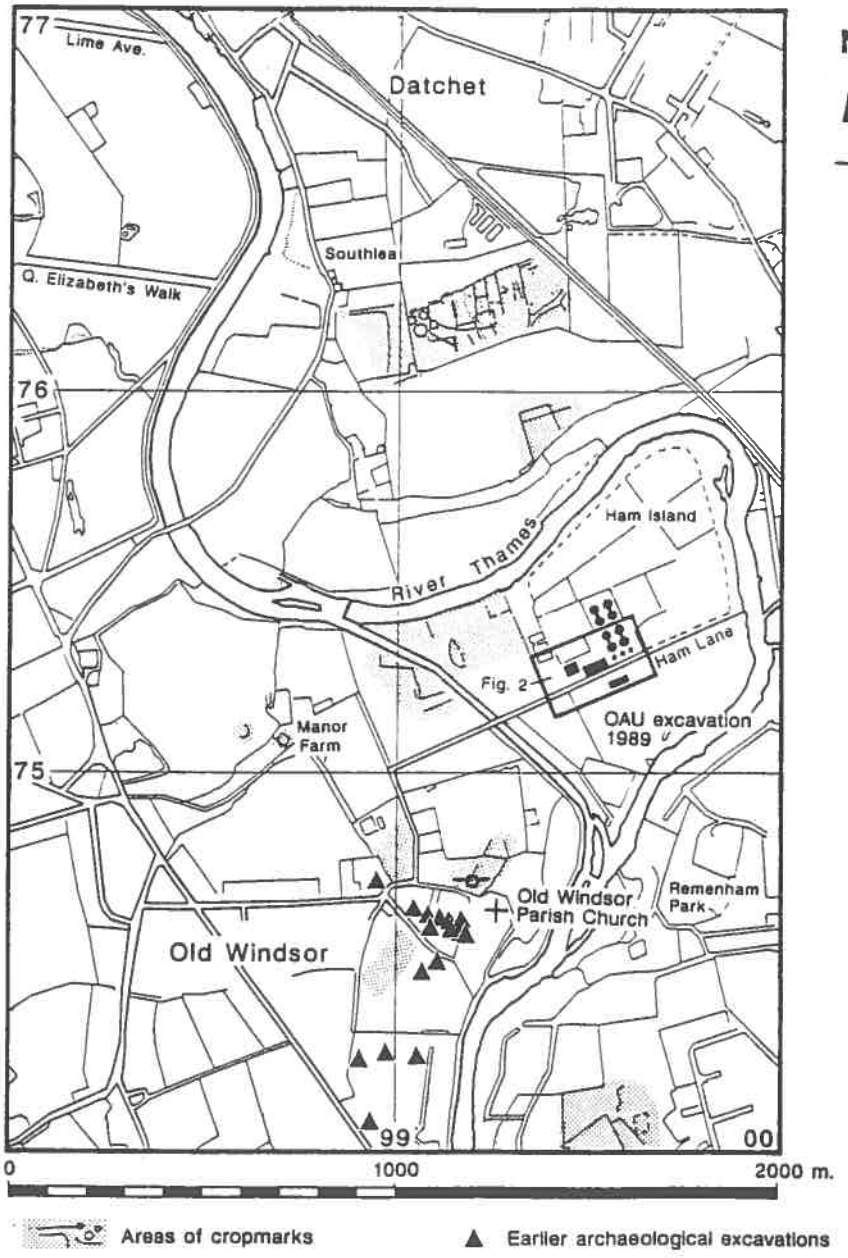

77
Lime Ave.
Datchet
N
Southlea
Q. Elizabeth's Walk
76
Ham Island
River Thames
Ham Lane
Fig. 2
OAU excavation
1989
Manor
Farm
75
Old Windsor
Parish Church
Remenham
Park
Old Windsor
99
00
0
1000
2000 m.
Areas of cropmarks
Earlier archaeological excavations

Fig.1

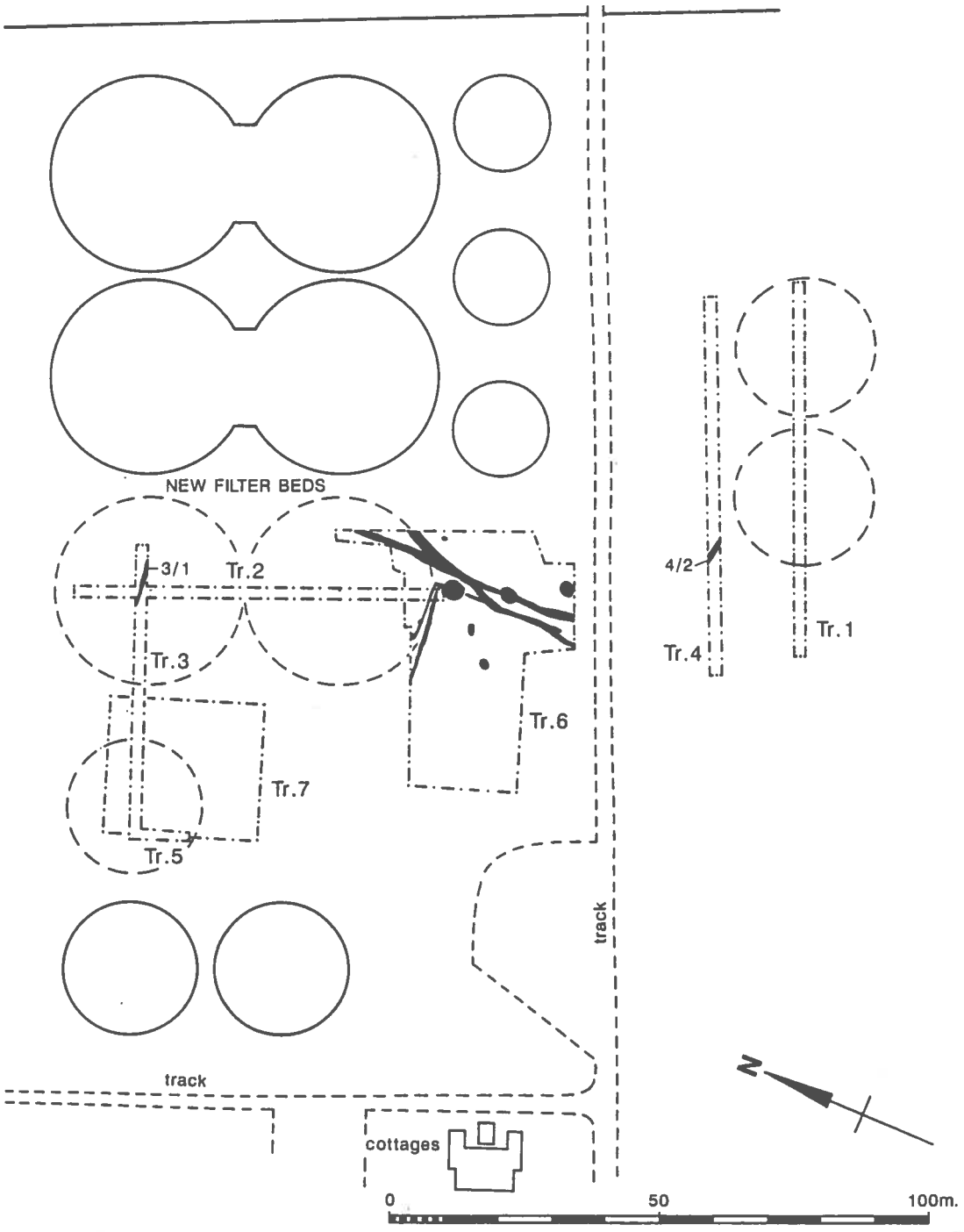

NEW FILTER BEDS
3/1
Tr.2
Tr.3
Tr.7
Tr.5
Tr.6
4/2
Tr.4
Tr.1
track
track
cottages
N
0
50
100m.

Fig.2

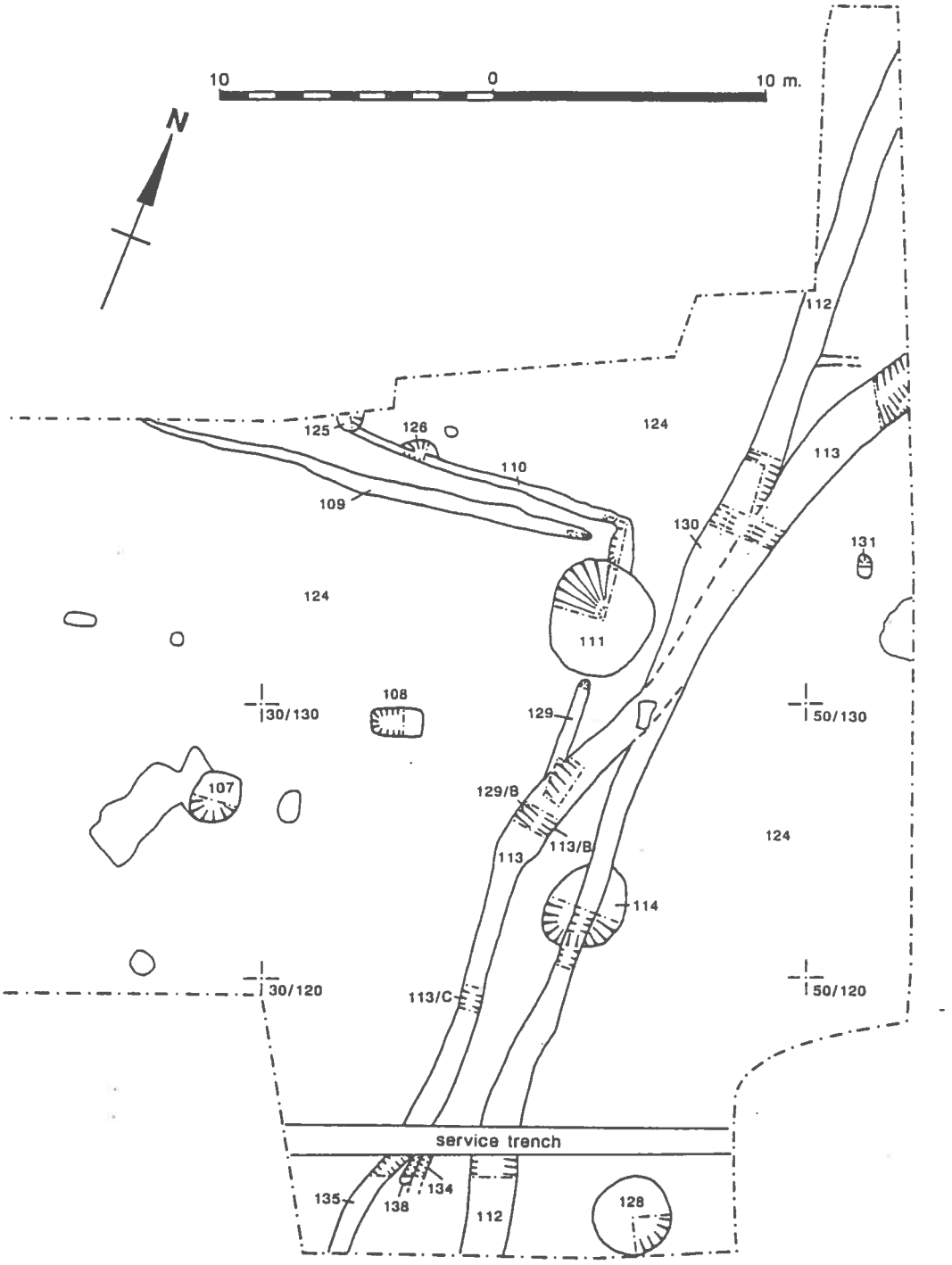

10
0
10 m.
N
112
125
126
124
110
113
109
130
131
124
111
108
30/130
129
50/130
107
129/B
113/B
113
124
114
30/120
113/C
50/120
service trench
135
134
138
112
128

Fig.3

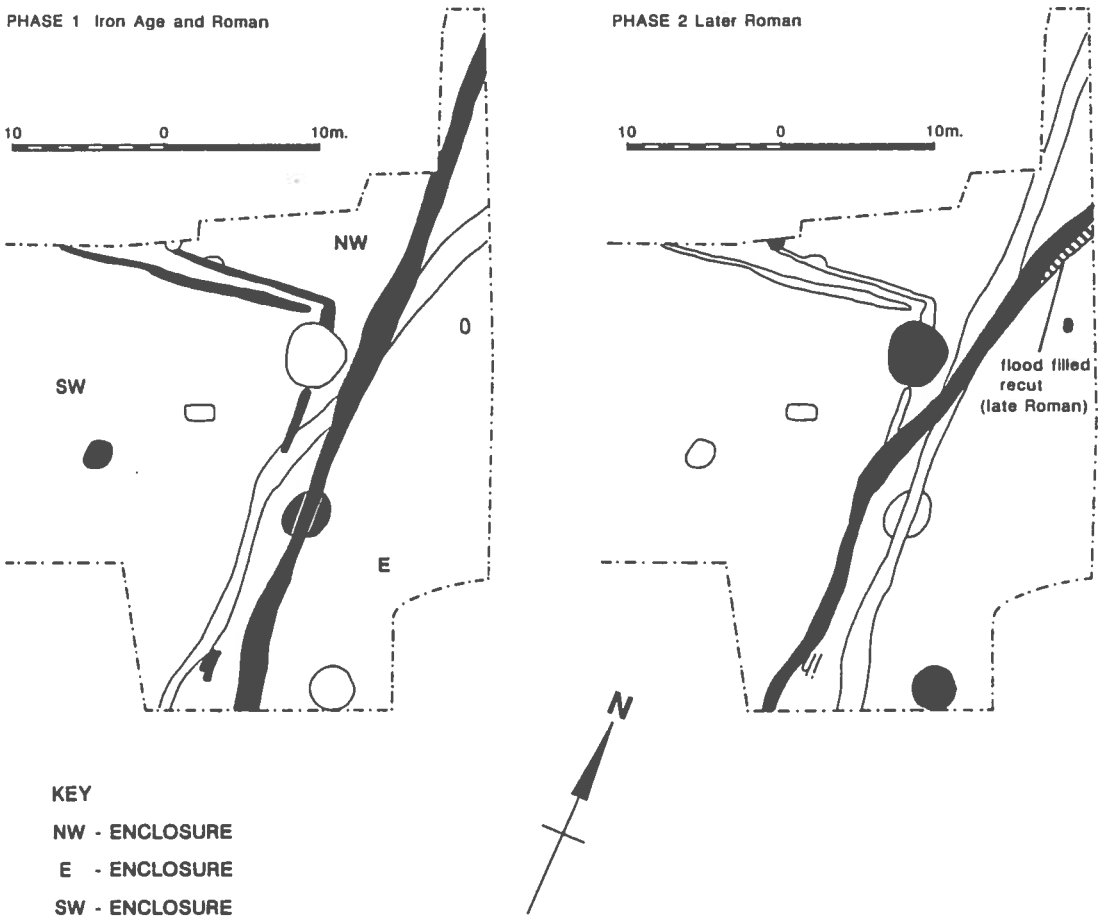

PHASE 1 Iron Age and Roman
10 0 10m.
NW
0
SW
E
PHASE 2 Later Roman
10 0 10m.
flood filled
recut
(late Roman)
N
KEY
NW - ENCLOSURE
E - ENCLOSURE
SW - ENCLOSURE

Fig.4

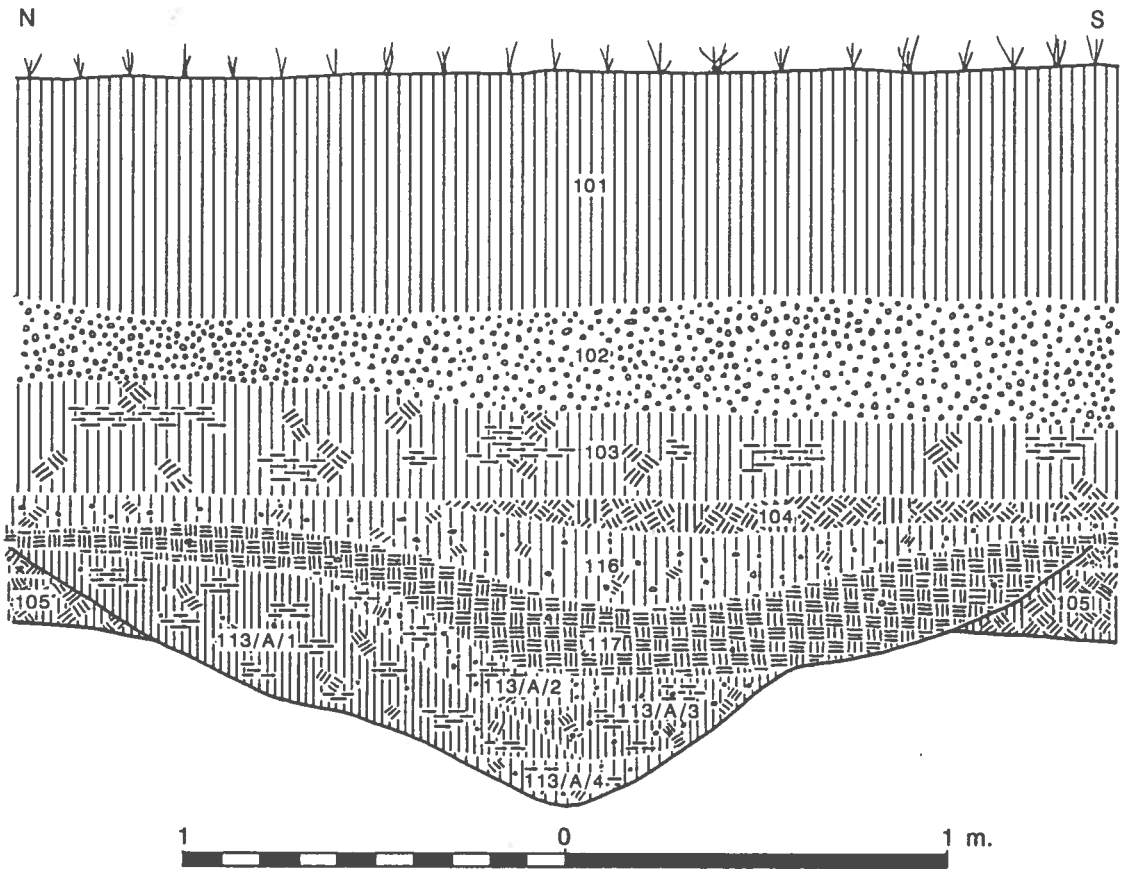

N
S
101
102
103
104
116
105
105
113/A/1
117
113/A/2
113/A/3
113/A/4
1
0
1 m.

Fig.5

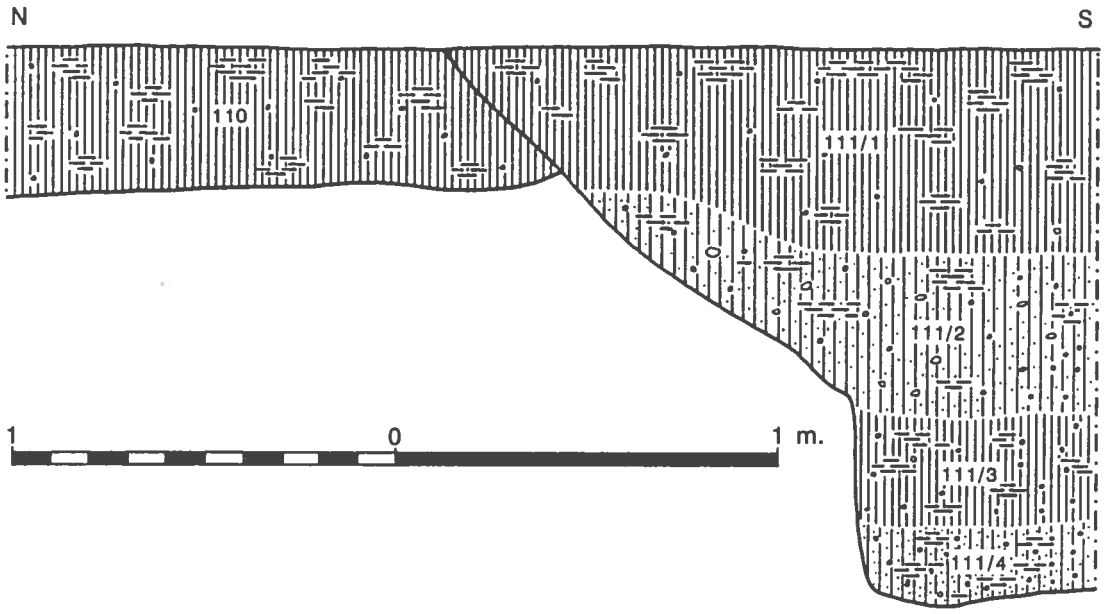
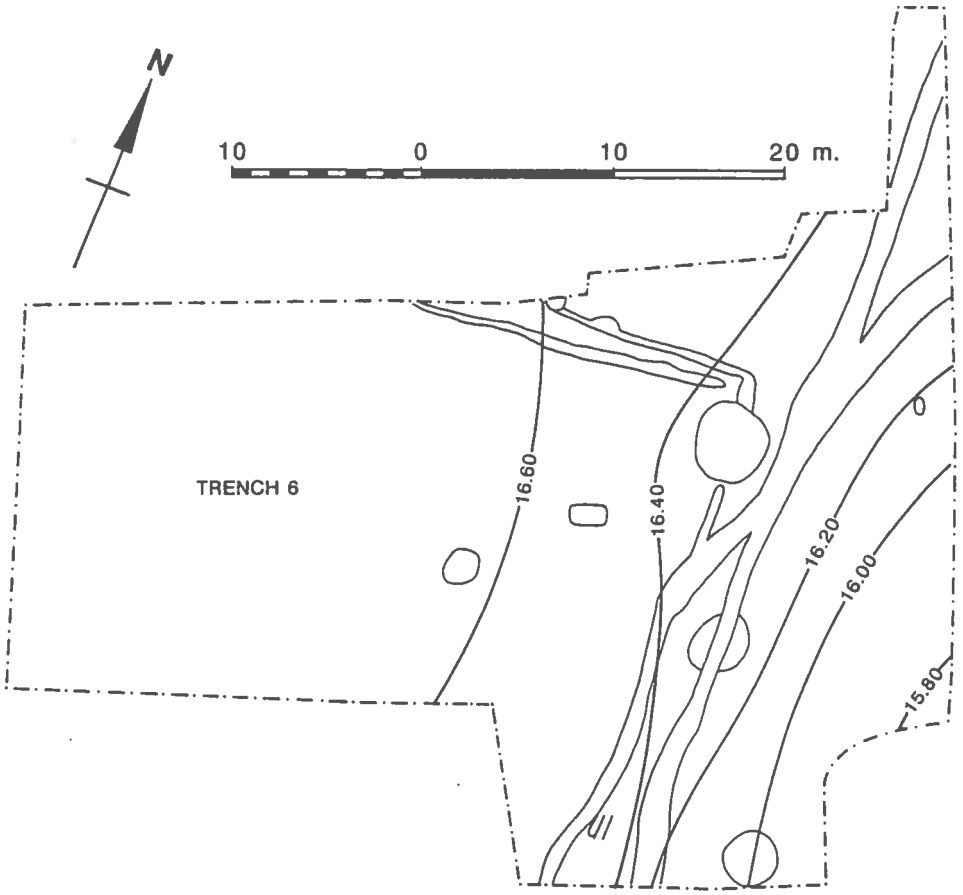


Fig.6


N
10
0
10
20 m.
TRENCH 6
16.60
16.40
16.20
16.00
15.80

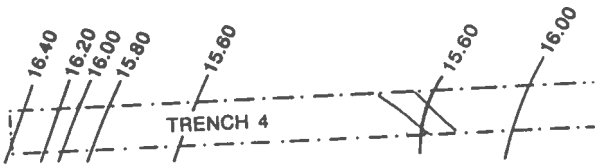

16.40
16.20
16.00
15.80
15.60
TRENCH 4
15.60
16.00

Fig.7

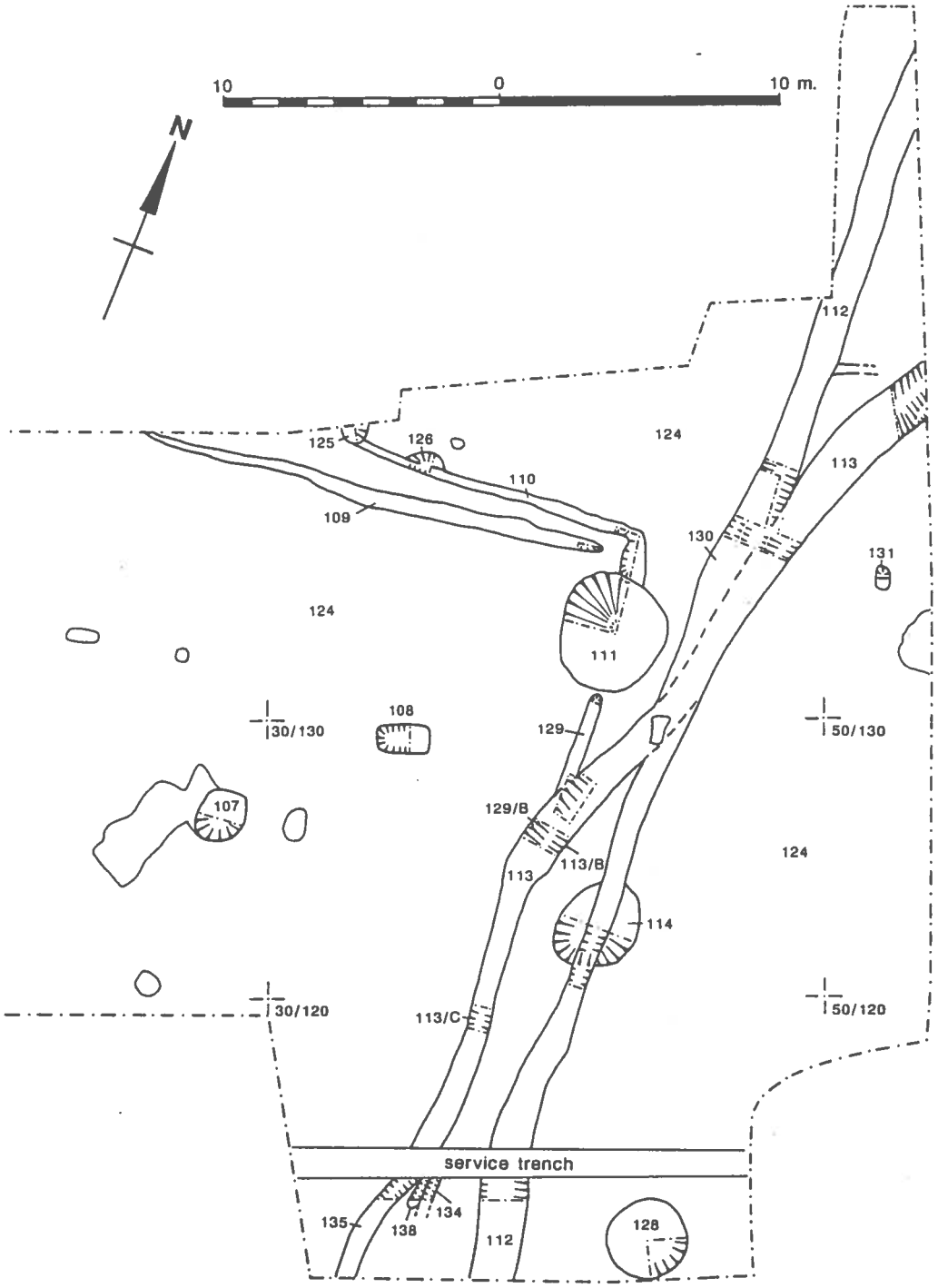

10
0
10 m.
N
112
125
126
124
110
113
109
130
131
124
111
30/130
108
129
50/130
107
129/B
113/B
113
124
114
30/120
113/C
50/120
service trench
135
134
138
112
128

Fig.3