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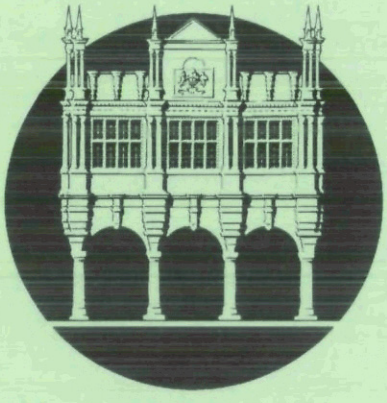

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RESCUE RECORDING AT BANTHAM HAM, SOUTH DEVON, IN 1997

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Summary

In 1997, construction of a new soakaway for the public toilets at Bantham Ham, Thurlestone (SX 66514368) was subject to archaeological recording. Two sides of an enclosure with a stone-revetted rampart were observed, and Romano-British material of 2nd-4th century date was recovered, as well as a range of palaeoenvironmental material. The location of the enclosure has no close parallels in Devon.

1 ARCHAEOLOGICAL BACKGROUND (Figs 1-3; Plates 1 & 2)

Bantham Ham is situated in South Devon at the mouth of the River Avon where it flows into Bigbury Bay. At the mouth of the estuary the river deviates northward to flow around the dune-covered promontory of Bantham Ham. The west side of Bantham Ham is characterised by dunes rising to 15m AOD. The centre of this area is Scheduled as the Ancient Monument of Bantham Camp (Devon Monument No. 8, SX664438; Fig. 2), although the current scheduled area does not encompass the whole area of known archaeological sensitivity. East of the dunes, where the 1982 excavation took place, the land lies at *c.* 6m AOD, whence it rises gently to the east. To the south of the dunes lies open ground largely used for car parking at present, and the area under grass where the present work took place. The floor of the valley lies to the south of the car park and consists of rough wet pasture overlying deep waterlogged deposits to either side of the Buckland Stream, despite drainage work in the 19th century (Fig. 3; see below). The geological formation underlying Bantham Ham is Devonian slate, which is overlain by windblown sand.

The history of archaeological work at Bantham Ham is discussed in detail by Griffith (1986). The archaeological significance of the site was first recognised in 1864, when the presence of 'cartloads of bone' recovered during the drainage of the marsh around the Buckland Stream is reported by S. Fox (1864, 132-3). It was not until the early 20th century that two writers, E.A.S. Elliot (1901) and H.L. Jenkins (1902), first described a 'camp' in the dunes (Fig. 3) . The location of this putative site was between the stream and the river, and a roughly rectilinear form was suggested (Jenkins, 1902; the location shown by Jenkins is inset in Fig. 3). Two areas of 'kitchen midden' and both prehistoric and Roman finds are described by Elliot, who thus deduced that the 'camp' must have been a very large and important one. On the basis of this, the site was Scheduled as an Ancient Monument in 1922, although even then the 'camp' proved unrecognisable (AM 1922). In 1955 Lady (Aileen) Fox examined Jenkins' surviving finds, and recognised them as post-Roman in date. Glastonbury ware and a quantity of mediaeval material (12-13C) were also identified in this collection. In 1981, limited excavation of an eroded area within the dunes was carried out by Silvester (1982; see Fig 2). This produced a few finds of post-Roman date, and fragmentary evidence of occupation structures. In 1982, salvage recording by F.M. Griffith recovered bone and shell material from the line of the culvert taking the Buckland Stream through the dunes. Limited ceramic material was recovered, and a hearth gave radiocarbon dates within the third to seventh centuries AD at 2σ (a recalibration of these dates by modern methods is given in Appendix 5). These results, and the review of the site in general (Griffith 1986), resulted in the recommendation to English Heritage that the scheduled area should be extended (ibid., 49). A site meeting to discuss this was held by English Heritage in 1988, but by 1997 no change had been made to the scheduled area. It is however hoped that such an amendment is now shortly to be made.

2 WORKS IN 1997 (Fig 4)

In 1996, the Devon County Archaeological Service was consulted by the Environment Agency on a proposal by Evans Estates, the site owners, to construct a soakaway in the car park as part of the upgrading of the toilets maintained by Evans Estates at Bantham. This was to take the form of a continuous trench housing a soakaway pipe which would zigzag across the area. The potential archaeological sensitivity of the whole area was emphasised, but, since the proposal was not subject to planning permission, PPG16 was not believed by the Environment Agency to apply, and they felt themselves unable to impose any condition on the work, which was beyond the limit of the Scheduled area. It was therefore agreed that the construction of the trenches for the soakaway should be subject to a watching brief, to be carried out by English Heritage's Field Monument Warden. The first trench was that nearest to the toilets, and was less than 1m in depth. No in situ features were observed in trench 1. In trench 2, stone walling was almost immediately observed by English Heritage, and Devon County Council was notified. Exeter Archaeology was then commissioned by DCC to carry out recording work on the remainder of the work. Trench 1 was fairly swiftly backfilled, and so was not recorded to the same level as the remainder of the work.

Recording was thereafter carried out by Exeter Archaeology staff on 3-9 September 1997, with the consent of Evans Estates and the co-operation of the staff of the drainage contractors, Alro Services. The trenches were excavated to a maximum depth of 1.2m using a wheeled excavator with a toothless grading bucket. The trenches were laid out in a zigzag pattern, running across the eastern side of the car park in a broadly south-westerly direction. Because of the general fall of the ground, the potential for exposure of archaeological features in the trenches reduced toward the south of the site as the trenches, maintaining a level base, became less deep in this area.

3 RECORDING

Monitoring of the initial stages of excavation (trenches 1/1a and the eastern part of trench 2) was undertaken by Mrs Caroline Vulliamy of English Heritage and Mrs Rosemary Robinson. The remaining trenches were monitored by Exeter Archaeology staff and by F. M. Griffith and A. M. Dick of Devon County Council. Once opened by machine, the trenches were cleaned by hand and archaeological deposits identified and recorded. Sections were drawn of the archaeological deposits exposed in trenches 2-5.

The scope of the archaeological recording was limited by the contractors' need to complete their work within a set time scale. Because of this, trenches 1, 1a and much of the eastern part of trench 2 were backfilled without detailed archaeological observation and recording. Recording of trenches 2-5 followed cleaning of the sides by hand. The initial machine excavation of trench 2 was not observed by an archaeologist but trenches 3-5 were watched during excavation. Deposits judged to have palaeoenvironmental potential were sampled.

3.1 **Trenches 1 and 1a** (Fig. 4)

These trenches, the easternmost on the site, were abandoned before they attained much depth. The presence of a number of stones in the spoil in this area suggests that parts of the rampart

revetment walls (517 and 523) observed in the trenches further west might also have been present in these trenches.

3.2 **Trenches 2 and 2a** (Figs 4-7; Plates 3-5)
The southernmost 11.25m of trench 2 had already been backfilled before the beginning of archaeological recording. Excavation of the western part of trench 2 and of 2a revealed two parallel drystone revetment walls (517 and 523), running east-west, whose highest surviving courses lay about 0.4-0.5m below ground level. The wall faces, 4.4m apart as exposed in the drain trench's oblique section across them, revetted a core consisting of layers of weathered slate fragments (518) and sand (519). The walls were constructed of local Devonian slate slabs, up to 0.35m long and 0.1m thick, laid in alternate horizontal and herringbone courses (Plates 4 and 5). Neither the bottom of the wall footings nor the slate bedrock was exposed. A layer of weathered slate fragments (522) formed part of the rampart core behind revetment wall 517 (i.e. against its south side).

Layers of sandy clay had accumulated against the northern face of revetment wall (517). These deposits consisted of wind blown sand interleaved with 'dirtier' (possible occupation) horizons (507) and material presumably derived from the demolition of the rampart (515) (Fig. 5). Sealed beneath these deposits was a shell midden (508) consisting of bivalves, mussel and cockle species, along with gastropods such as limpets and periwinkle species (for detailed report see below). There was no direct stratigraphic relationship between the shell midden and the northern revetment wall (517) in the north section of trench 2, but this deposit was observed to abut the face of the wall in the south section (which was not drawn).

The truncated rampart and the sequence of deposits abutting its north face were overlain by sandy topsoil layers (500 and 520) which have a maximum thickness of 0.77m. In trench 2a layer 500 abutted the external face of the revetment wall 517.

3.3 **Trench 3** (Fig. 7)
At the northern end of this trench, where it joined trench 2a, the herringbone facework of the southern revetment wall (523) was exposed over a length of 0.65m. No occupation horizons, or other archaeological features, were exposed to the south of the wall (i.e. inside the enclosure) or in the remainder of the trench.

3.4 **Trench 4** (Fig. 7)
Two stone revetment walls, of similar construction to those observed in trenches 2 and 2a but orientated north-south, were exposed in trench 4. The walls revetted a core of red sandy clay forming the bulk of the rampart material. The overall width of the section exposed through the eastern rampart, measured between the external wall faces in the north section of trench 3, was 4.9m at this point, some 0.45m wider than the northern rampart where it was exposed in trench 2. Allowing for the angle of the trenches across the ramparts, the true overall width of both ramparts is about 4.3m. The highest surviving courses of the revetment walls in trench 4 (534 and 535) lay at a depth of 1.1m below ground level (the trench was excavated to a depth of up to 1.2m) and the rampart core survived up to 0.4m higher than these walls. The rampart material was partially covered by a layer of loose wind blown sand (536) which seals the revetment walls. The rampart was sealed by a brown sandy soil (532) that may represent a soil horizon which developed more gradually after the deposition of 536. This was in turn overlain by sandy topsoil layers 530 and 531.

3.5 **Trench 5**

The rampart exposed in trench 4 was not seen in trench 5. However this trench was excavated by machine to a maximum depth of only 1m, and in places somewhat less, as the land slopes here but the trench base was kept level. The base of the rampart may survive at a lower level. The windblown sand deposit recorded in trench 4 was traced in section through the length of trench 5. Over a length of about 7.5m to the west of the putative line of the rampart a dark grey sand lens (527) lay beneath the lowest sandy topsoil layer (526). This layer is significantly darker than the overlying deposits and contains charcoal and shell fragments. It overlay the sand deposit (536) which partially sealed the rampart in trench 4; it represents a possible buried soil development which perhaps accumulated at a time when the rampart was derelict and largely buried but occupation or activity continued in the vicinity. (Sections for Trench 5 were drawn but are not illustrated here.)

4 PALAEOENVIRONMENTAL SAMPLING

Samples were taken from the occupation layer (507) overlying the shell midden in trench 2 and from the possible buried soil development (527) in trench 5. That from 507 was submitted for radiocarbon determination. Samples were also taken from the shell midden (508) for molluscan analysis. The reports on these are given in the Appendices. They demonstrate that the 'midden' material was indeed the detritus from active food-gathering activities. Dates in the later Bronze Age were obtained from the charcoal samples.

5 FINDS

The Roman pottery sherds recovered during the excavation have been examined by G. Langman and P.T. Bidwell. A total of 38 sherds, representing at least 30 individual vessels, came from the topsoil (500) and from the deposits (contexts 500, 502, 504, 506, 520) that had accumulated against the external face of the rampart in trench 2 (see Appendix 7). No finds came from the rampart structure itself. The material ranges in date between the second and fourth centuries AD. No post-Roman pottery was recovered from the site.

context	*Date/period*
500	Roman (mid 2nd to mid 3rd century)
502	Roman (mid 2nd to mid 3rd century)
506	Roman (2nd century)
520	Roman (3rd/4th century)

6 SUMMARY OF RESULTS

This rescue recording exercise has revealed the existence of a previously unknown component of the archaeological complex at Bantham – an enclosure lying immediately to the south west of the original scheduled area. A substantial drystone-revetted rampart 4.3m in overall width was observed in trenches 2/2a and 4, and may also have been present in Trench 1. The alignments of the two recorded lengths of the revetment wall would meet at a point just west of trench 2a, presumably joining at right angles to form the north-west corner of the enclosure (Fig. 4). Neither the base of the rampart nor the natural bedrock was seen at any point, nor it was established whether the enclosure was surrounded by a ditch, as the trench as excavated nowhere penetrated sufficiently deeply. However, since the body of the rampart consisted mainly of redeposited dune sand, interspersed with layers of weathered shale fragments it is probable that this material came from a ditch. The revetment walls were generally only one stone thick, constructed in slate slabs up to 0.35m in length laid in alternate horizontal and herringbone courses. The uppermost part of the rampart had fallen into decay or been slighted prior to the deposition of a shell midden against its northern face - which is the side closest to the known area of post-Roman deposits.

The overall dimensions of the enclosure are unknown. No observations were made in trenches 1/1a or the eastern part of trench 2. Trench 1 was very shallow. Given the slightly shallower depth of excavation in trench 5, it seems likely that the truncated top of the rampart may not have been reached in this area. The Buckland Stream runs E-W about 120m to the south of the northern rampart, providing a limit to the site on that side. The western side could therefore have been no more than about 100m in length. The enclosure is thus likely to have measured between 50m and 100m in overall width, or 0.25-1.0 ha in area assuming a roughly square plan. This would be broadly comparable with other simple rectilinear enclosure sites of Roman and post-Roman date known in South West England. Although its structure is different from any others so far known, it can readily be appreciated as a response to the use of locally available materials.

Further archaeological deposits, in some cases perhaps windblown, lay above and against the enclosure. It cannot be established whether they built up against it during its use, after its disuse, or were redeposited against it from an original location elsewhere. Thirty-eight sherds of second- to fourth-century Roman pottery were recovered from the excavated trenches, all of which derived from the deep topsoil and blown sand layers that overlay the rampart or from the midden layers that abut it. There is thus no direct evidence to date the fabric of the enclosure itself. The material bears some similarities with that from earlier records of `midden material', and may provide further evidence for the extent and the scale of the previously observed midden deposits, which had not previously been recorded so far inland.

7 DISCUSSION

While the results that could be achieved from this small-scale emergency recording project are necessarily limited, they nevertheless helpfully expand our understanding of the overall picture of the past history of Bantham Ham. While it is not necessary here to revisit all the previous discussion, a number of points may usefully be made to update the past understanding of the site.

7.1 **Prehistoric activity**

There have, over the years, been a number of finds of prehistoric date from Bantham Ham. Stone axes and flint arrowheads are reported by Elliot (1901, 477) and a stone axe 'of Baltic pattern' is published by Jenkins (1902, 20, II). Lady Fox (1955, 56) mentions in passing two sherds of Glastonbury ware, but they are not illustrated and were not seen by the writer at Torquay Museum in 1983. The radiocarbon date of 1375-945 cal. BC, from a sample from the occupation deposit 507, must also derive from an earlier period of activity at Bantham. Rowena Gale (pers. comm. to SR) has confirmed that in the ground conditions obtaining at Bantham, the survival of gorse charcoal fragments in the sands of the Ham would not be unexpected.

7.2 **The sites of the middens at Bantham Ham**

At the time of reporting the 1982 observations, F.M. Griffith believed that the wooden culvert removed during the reconstruction work in 1982 was that put in when the marsh around the Buckland Stream was drained in the episode described by Fox (1864)(Griffith 1986, 44-5, pl. 5). However, the 1887 1:2500 Ordnance Survey plan still shows the stream taking a more northerly line to the sea, roughly through the still existing gap in the dunes (see Fig 3). This map also still depicts the field around the stream with the OS symbol used for marshy ground, and so the exact location of the drainage works may not be as clear as was thought. Thus the inference by Griffith (ibid.), that the wooden culvert that she saw was directly associated with the drainage episode recorded by Fox (1864), is not confirmed. The situation may be more complex.

This means that the <u>two</u> middens observed by Jenkins, one of which was 'next to the stream', are likely both to lie well to the north of the present line of the culverted stream. As it was in this latter area that the 1982 observations of apparently comparable material were made, it is clear that the area of 'midden' deposits extended well to the south of the earlier line of the stream (Figs. 2 and 3). The site can thus be seen to extend to either side of the former line of the stream.

Elliot (1901, 478) also mentions the fact that wooden stakes or piles with fire-blackened ends had been found in 'the marsh'. However, it is very difficult to propose a location for this discovery, which could refer to anywhere within the field centred SX 665436. It is thus impossible on present information to establish whether this may offer another component to an already known element of the complex here, or whether it represents a completely new dimension. Allcroft (1908, 196) goes further, describing 'large uprights' at what he describes as the 'promontory fort at Bantham'. Unfortunately he gives no further locational information, nor a reference, although the description of the site as a promontory fort does rather suggest that this is not based on first-hand observation. Fox's (1864) account of the 'cartloads of bones' states that these came from the marsh (rather than the dunes), which suggests that the extent of the total archaeological complex, of whatever date, is very substantial.

7.3 **The alleged 'camp'**

A 'camp' is described by both Jenkins and Elliot 'in the dunes', although Jenkins (1902, 21) concedes 'local tradition is quite silent on the camp'. Jenkins provides a sketch plan, indicating it to lie between the then mouth of the Buckland Stream and the slightly higher

ground to the north of the dunes (Fig 3). However, Miss Fox, who appears from her book (1864) to have been a fairly keen observer, made no reference to any structure in the dune area in the 1860s. Wall (1905, 580) clearly struggled to see 'entrenchments' here, but reports, without reference to any particular source, that they had hitherto been extensive.

The 1922 Scheduling document reports 'The Earthwork is so swept and altered by shifting sandhills that its original form seems unrecognisable' and there thus seems no indication that the 'camp', if any, was visible either then or in 1953 when Lady Fox first visited as the OS correspondent.

It does appear, therefore, that the bulk of the evidence indicates that the 'recognition' of 'the camp' may have been a rather short-term interpretation of a transient formation in the sand dunes, as Lady Fox (1955, 66) suggests. The identification of the newly discovered enclosure with the former 'camp' is not plausible, since its location certainly does not tally with that given by Jenkins.

7.4 **The enclosure**

The enclosure identified in 1997 is likely to have measured between 50m and 100m in overall width, or 0.25-1.0 ha in area, assuming a roughly square plan. This would be broadly comparable with other simple rectilinear enclosure sites of prehistoric, Roman and post-Roman date known in South West England (e.g. Griffith 1994; Johnson & Rose 1982). Although its structure is different from most others so far known in Devon, the form of the rampart is comparable with that at Stoke Gabriel (Masson Phillips 1966) and at a number of Cornish `rounds' (H Quinnell pers. comm.), and its construction can readily be appreciated as a response to the use of local materials. The siting of the enclosure, at such a low level (6m AOD) so close to the seashore, is very unusual in a south-western context. The only apparent parallel for the siting in the South West known at present is that at Carwin near Gwithian (Thomas 1958, 17-8), although that enclosure was substantially larger.

The enclosure appears, from its scale and location, to be civil in character and no finds of distinctively military character were recovered, nor was the date – second century and later – what would be expected for a military site. The ground under which the remains of the enclosure were discovered had remained undisturbed for many years, and there is no particular reason why any evidence for its presence should previously have been known. This area does however offer a possible provenance for those sherds in Torquay Museum which, on re-examination by Paul Bidwell in the early 1980s (Bidwell pers. comm.), were found to be Roman rather than post-Roman in origin.

7.5 **The nature and dating of occupation at Bantham**

It therefore appears that we are dealing with something that, rather than shedding light on earlier records, adds yet another new component to this complex and enigmatic site. None of the earlier reports can convincingly be seen as describing something at the spot where the enclosure has been identified, and Silvester's excavation has confirmed that there certainly was occupation, in no matter how vestigial a form, in the general area of the features described by Elliot and Jenkins. Mrs Fox's 1864 finds remain, together with Jenkins' fire-blackened stakes, somewhere in the marsh to the south, probably related to the bone material observed by Griffith in 1982.

It is clear that not all the material recorded by Jenkins has actually survived. The artefacts illustrated by him, as seen by both by Lady Fox and by Bidwell (in Griffith 1986), were interpreted as all imported. Indeed, the absence of locally manufactured Romano-British pottery was taken by Bidwell as evidence that the 1982 assemblage was not of pre 4th century date. The volume, date and type of the pottery found in the present exercise means that the conclusions previously drawn can now be reinterpreted. Most of the finds from the present work are of comparatively local material, the only exception being one central Gaulish 2nd century Samian vessel. The rest are either of Devon manufacture or from further east along the south coast. This indicates a fairly 'normal' assemblage for a Devon enclosure of this date, and indeed appears to offer no particular suggestion of a trading function at that time. The presence of Romano-British activity here could in itself account for the other Roman material recovered from other parts of the site.

On the other hand, no post-Roman material came to light in the existing work. If it is correct to postulate that the enclosure is of Roman or earlier date, and that it was abandoned by at least the 4th century, and that the midden material (which in the present work produced no post-Roman finds) built up either against it or adjacent to it, this would be reasonably compatible with what we know of other activity on the site. It is emphasised by Light (Appendix 1) that the marine shell assemblage does represent a deliberate gathering of food material, rather than a random group of shells. The term 'midden' is thus appropriately applied.

Earlier sources (Elliot 1901, 477; Jenkins 1902, 21) emphasise the size and extent of the 'kitchen middens', of which two areas could apparently be identified. These were clearly strikingly substantial, and do appear to have contained material from the prehistoric period onwards. Elliot claims to have distinguished different character in the two areas, 'the one nearer the marsh' having apparently much less shell in its makeup. Both Silvester's and Griffith's earlier work also recovered material of this character.

The presence of 'midden' material and shell waste is not surprising on a site at such a location at any period. It appears that the present discovery is not associated in any way with post-roman material recognised in past work on this site. Light's report makes it clear that, as with earlier samples, the `midden' consisted of marine molluscs selectively gathered for consumption and, at least in some cases, cooked.

8 CONCLUSION

From all this, we may deduce that the archaeological complex at Bantham now comprises, at minimum: prehistoric activity of various periods and unknown extent: one enclosure of probable prehistoric or Roman date, and an area of occupation associated with a very large volume and extent of midden material which dates from the post-Roman period, through the 7th-8th centuries at least to the middle ages (Dunning in Fox 1965). The extent of the archaeologically sensitive area can now with some certainty be said to cover all the dune area and the field within which the toilets lie. It extends to the present surf lifesaving hut to the east, and may go as far as the river to the west. The extent of the archaeological deposits within the field through which the Buckland Stream flows is unclear, but, as the early sources appear to suggest that many of the earliest finds came from this area, and in considerable

numbers, the whole of this field should probably also be regarded as archaeologically sensitive.

Overall, therefore, Bantham remains a site where intense, or at any rate repeated, human activity has taken place over several millennia. The presence of the enclosure, recorded only in somewhat unpropitious conditions, adds a further dimension and may offer a further 'settlement' element, although this had not been demonstrated by excavation of its interior. It also provides a possible context for some of the Roman material retrieved previously from the site. For the post-Roman period, the reasons rehearsed at length by Griffith (1986) for considering this the site both of settlement and intermittent trading activities appear to remain intact in the light of this further work.

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APPENDIX 1: MARINE MOLLUSCA
by Janice Light

A group of four samples from a shell midden layer, context 508, lying against the stone revetted rampart at Bantham Ham, at a height of c. 6m OD, were submitted for molluscan assessment and, if appropriate, analysis.

The weights of all organic components in the sample are presented in Table 1. Also shown are the weights of the >4mm rock residue, and the weights of the other 3 unsorted fractions. All sample bags submitted contained the same assemblage of marine mollusc species, *Mytilus edulis*, *Tapes* (syn. *Venerupis*) *decussatus*, *Littorina littorea*, *Patella vulgata*, *Cerastoderma edule*, *Ensis* sp. and *Mya* sp. Overall *Ensis* sp. and *Mya* sp. constituted a very minor component of the species assemblage. Surprisingly few land snails (4 species in the Helicidae) and fragments were present in the samples and the number of barnacle plates and tube worm (serpulid) fragments was also very low. These latter components often occur in shell midden samples having encrusted the shells of the molluscs when alive.

Table 1: Contents of 4 bags of shell and rock fragments taken from the shell midden, context 508, Bantham Ham, South Devon.

Species/Component	Sample weight (gm)
Mytilus edulis	892
Tapes decussatus	257
Littorina littorea	59
Patella vulgata	52
Cerastoderma edule	35
Ensis sp	4.5
Mya sp.	2
Barnacles/tube worm	present
Land snails	4
>4mm rock residue	1593
>2.4mm rock+shell	841
>1 mm rock+shell	886
<1 mm rock+shell	137
Total sample weight	4762.5

Discussion

All the marine molluscs present in the samples are well documented as comestibles (e.g. Lovell 1884) and continue to be eaten at the present day. However some species (*Mytilus edulis, Tapes decussatus, Cerastoderma edule, Littorina littorea*) are more widely available or popular than others (*Ensis* Sp., *Patella vulgata, Mya* spp.). The assemblage consists of species associated with rocky shores (*Mytilus, Patella, Littorina*) and others which are infaunal in soft sediments (*Tapes, Cerastoderma*).

They are a naturally co-occurring suite of species at sites where extensive muddy and gravelly sands are associated with scattered rock outcrop or marginal rock platforms. Bantham Ham, situated as it is at the mouth of the River Avon with rocky shore locally, offers appropriate habitat for the species in the samples. Their presence, and the total absence of other common and conspicuous species occurring in such habitat, is strong evidence that the shells in the midden represent food remains which may have been gathered locally. Of the bivalve species, it is surprising that so few of the valves are complete - especially *Tapes decussatus* which has a very robust shell - since it would not have been necessary to break them during consumption. It is noteworthy that although relatively few *Mytilus* and *Tapes* shells are complete, those which are sufficiently unfragmented to gauge their original size, are very large. For example the overall proportions of the mussel shells suggest they have exceeded 50mm in shell length. Because of the very short time required to kill molluscs by heating, damage or staining sustained by shells during cooking will be difficult to detect. However, many of the *Mytilus* shell fragments are flaky and the finest residue fractions of the samples contain extremely fine ash, suggesting that at least some of the molluscs were cooked.

Summary

In the samples taken from the Bantham Ham shell midden the assemblage was dominated by *Mytilus edulis* with *Tapes decussatus* second in importance. *Littorina*, *Patella* and *Cerastoderma* were broadly similar in their lesser importance in the samples (see weights in Table 1). The suite of species is a naturally co-occurring assemblage and is present at Bigbury-on-Sea, Devon in the present day (pers. obs. April 1997). It is likely that the molluscs represented in the shell midden could have been collected and consumed locally. The absence of non-comestible species and littoral detritus is further evidence that the deposit represents food remains.

APPENDIX 2: LAND MOLLUSCA
By Paul Davies

Sample BS97, from context 508

Species present

Species	Number
Carychium minimum	1
Sucineidae	1
Cochlicopa lubrica	6
Vertigo pygmaea	5
Pupilla muscorum	38
Lauria cylindracaea	26
Vallonia costata	10
Vallonia excentrica	128
Discus rotundatus	6

Species	Number
Vitrina pellucida	1
Vitrea sp.	1
Aegopinelia pura	2
Aegopinella nitidula	4
Oxychilus sp.	3
Cecilioides acicula	58
Clausilia bidentata	1
Cochlicella acuta	134
Helicidae	500+

Preservation

Preservation was generally excellent, with spiral striae, colouration and other delicate features intact. The *Cecilioides acicula* were clearly modern and intrusive - the species can burrow up to 2m underground - and subsequently do not form part of the interpretation. A few individual shells showed signs of burning (though <0.2% of the total), and charcoal was present in the sample.

Interpretation

In the main the sample consists of a *Helicidae-Cochlicella* fauna with *Vallonia excentrica, Cochlicopa lubrica, Pupilia muscorum* and *Lauria cylindracaea* also characteristic. The latter species is notable because it is a rupestral species usually associated with shaded places or under logs or on walls. Other shade-demanding taxa are present *(D. rotundatus, Oxychilus* sp., *Aegopinella* sp. and a single *Clausilia bidentata*).

However, overall the shade demanding taxa (including *Lauria*) do not comprise a large percentage of the whole, being far outnumbered by xerophiles such as the Helicidae (in the main represented by *Candidula intersecta*, *Cernuella virgata* and *Helicella itala*, with some

Trichia hispida which is more catholic in its requirements). In this particular instance I do not think it justified to consider that the environment was significantly shaded (scrub or wood as often found at the base of dune sequences -cf. Evans (1972; 1979)). It would seem that the shade-demanding taxa were associated with the nearby stone revetted rampart. Overall the main taxa (Helicidae- *Cochlicella, Pupilla, Cochlicopa*, *Vallonia excentrica*) indicate a general environment of well-vegetated but short-sward dry dune grassland. The prevalence of *Cochlicella acuta*, a species that thrives on loose sand, might indicate lack of thick thatch at ground level.

The Helicidae and *Cochlicella acuta* indicate a late Holocene date, the latter being present at Gwithian, Cornwall from the Early Bronze Age.

APPENDIX 3: THE GRAIN

By Vanessa Straker

Samples from context 508 were identified as follows:

Bantham Ham, context 508

Triticum sp. wheat	3
Cereal fragments	5 (fragments)
Tuber (unidentified)	1
Vicia sp. Vetch	1

APPENDIX 4: CHARCOAL FOR RADIOCARBON DATING

By Rowena Gale (2nd October 1998)

Suitable material for radiocarbon dating was identified from three samples of charcoal. Sample 300 from [507] was composed of a large quantity of well preserved charcoal, but samples (302) and (508) contained sparse and very fragmented material.

The samples were prepared for examination using standard methods. The charcoal fragments were fractured to expose fresh surfaces in the transverse, tangential and radial planes and supported in washed sand. The anatomical structure was examined using a Nikon Labophot microscope at magnifications of up to X400 and matched to prepared reference material.

Sample 300 [507] Tr. 2
38 fragments of oak (*Quercus*) heartwood
3 fragments of gorse/ broom (*Ulex/ Cytisus*)*. These genera are anatomically similar.
2 fragments of blackthorn (*Prunus spinosa*)*
1 fragment alder (*Alnus*)*

Sample 301 [508] Tr. 2
8 fragments of oak (*Quercus*) heartwood
1 fragment alder/ hazel (*Alnus/ Corylus*)*- too poorly preserved to verify.

Sample 302, [507] Tr. 5
14 fragments of oak (*Quercus*) heartwood

APPENDIX 5: RADIOCARBON DATES

A charcoal sample from context 507 was submitted to the University of Arizona Accelerator Mass Spectrometry Facility for radiocarbon dating. The result, dated 18 May 1999, was as follows:

Sample	Material	Sample reference	Delta "C rel RDB	Radiocarbon Age BP
AA-33125	Charcoal: *Ulex/Cytisus*	Bantham Ham : 786300	-25.5o/oo	2950 ± 60
Calibrated Age Ranges	1σ	cal BC 1286-1047, cal BP 3236-2997		
	2σ	cal BC 1375-945, cal BP 3325-2895		

N.B.
1. The above 14C ages are quoted in conventional years BP (before 1950 AD). The errors are expressed at the one-sigma level of confidence.
2. The calibrated age ranges are determined from the University of Washington, Quaternary Isotope Laboratory, Radiocarbon Dating Program, Rev. 4.0 1998. The decadal atmospheric calibration curve is used throughout and the calendar age ranges, obtained from the intercepts (Method A), are expressed at both the one and two sigma levels of confidence. In the case of marine shell samples derived from around the U.K. coastline, an apparent age (reservoir effect) of 405 + 40 years (Harkness, 1983) is subtracted from the conventional 14 C age prior to calibration using the decadal atmospheric curve.
3. Samples with an AA coding are measured at the University of Arizona Accelerator Mass Spectrometry Facility.

The radiocarbon dates obtained for the two samples from the 1982 observations (Griffith 1986, 50), have been recalibrated by SJR using the program OxCal v3.5 Bronk Ramsey (2000) (cub r:4 sd:12 prob usp [chron]).

Sample reference	Material	Radiocarbon Age BP	Recalibrated Age Range at 2σ (95.4%) probability
HAR-5775	bone	1690 ± 80BP	130-540AD
HAR-5776	charcoal	1440 ± 90BP	420-780AD

APPENDIX 6 BONE

By Graham Langman

A total of 23 stratified and 34 unstratified pieces of faunal bone were recovered from the excavated samples. No further reporting was felt to be constructive.

APPENDIX 7: THE POTTERY

By Paul Bidwell and Graham Langman

Context	500		502		506		520	
	S	MNV + form	S	MNV + form	S	MNV + form	S	MNV + form
South Devon Ware	1	1 base					2	2 cp rim 3-4 C
SE Dorset BB1	2	1 cp rim					2	2 cp rim 3-4 C
SW BB1	1	1 pl rimmed dish M2-M3 C	2	2; pl rimmed dish M2-M3 C				
Grey Ware								
Dec CG Samian	1	1			2	1 Dr 37 2C		
Flagon ?Exeter 435					1	1		

Context	Unstrat Tr. 1		Unstrat Tr. 2		Unstrat	
	S	MNV + form	S	MNV + form	S	MNV + form
South Devon Ware	5	3			12	8; cp rim 4C; flanged bowl rim 3C; storage jar 4C; jar with lattice
SW BB1	3	3; pl rimmed dish M2-M3 C			1	1
Grey Ware	1	1				
?Grey Ware			1	1 flat-rimmed bowl 2C	1	1 flat-rimmed bowl 2C
Plain Samian					1	1 rim
Oxidised Ware					2	1

S = sherd count, MNV = Minimum number of vessels represented, Cp = coarse pottery, pl = plain, BB = Black burnished, CG = Central Gaulish

total number of sherds: 41
minimum number of vessels: 32
total weight of sherds: 564 g

Minimum date range: mid 2nd to late 3rd century.

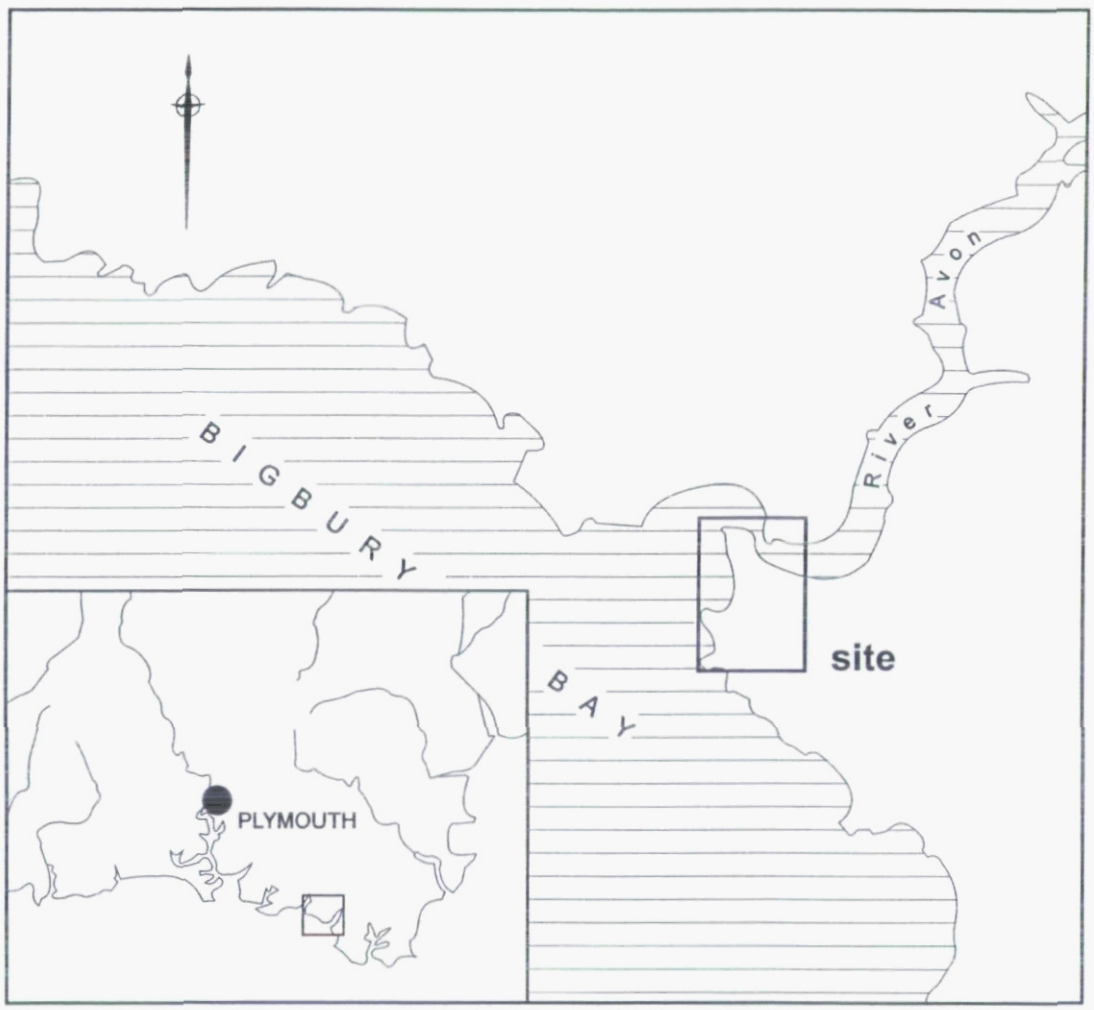

Fig. 1 Location of site.

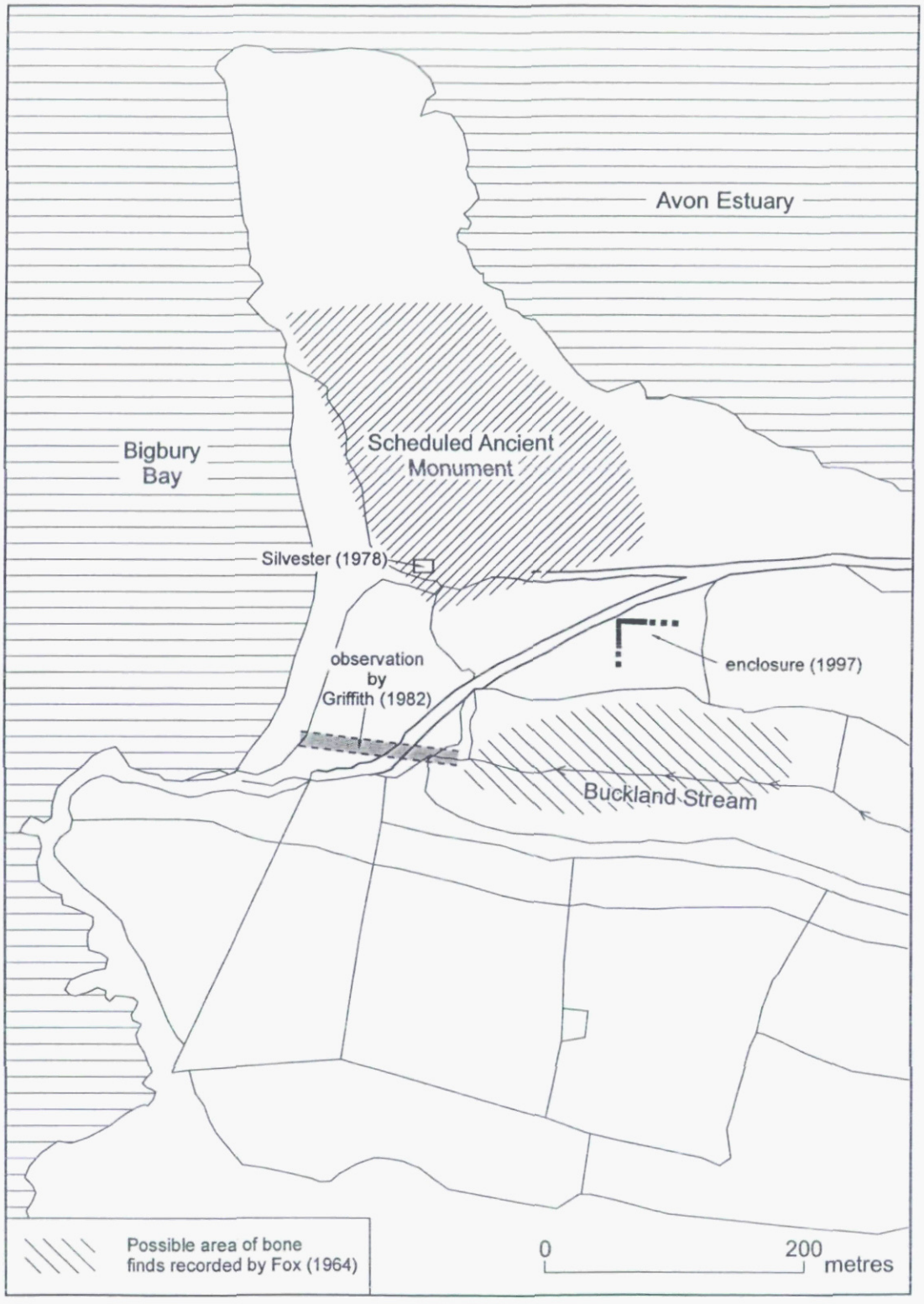

Fig. 2 Location of site in relation to scheduled area on Bantham Ham.

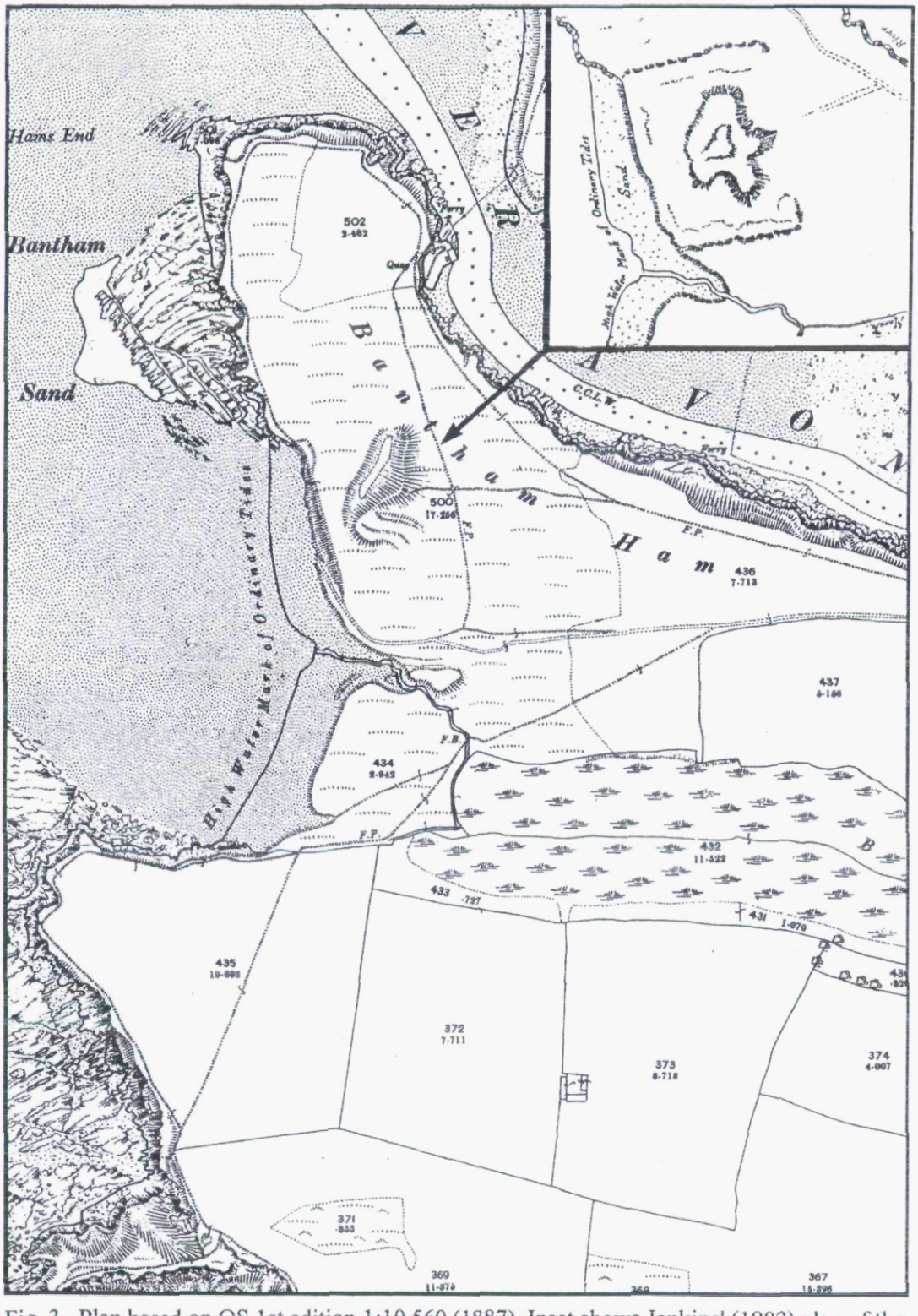

Fig. 3 Plan based on OS 1st edition 1:10,560 (1887). Inset shows Jenkins' (1902) plan of the 'camp'.

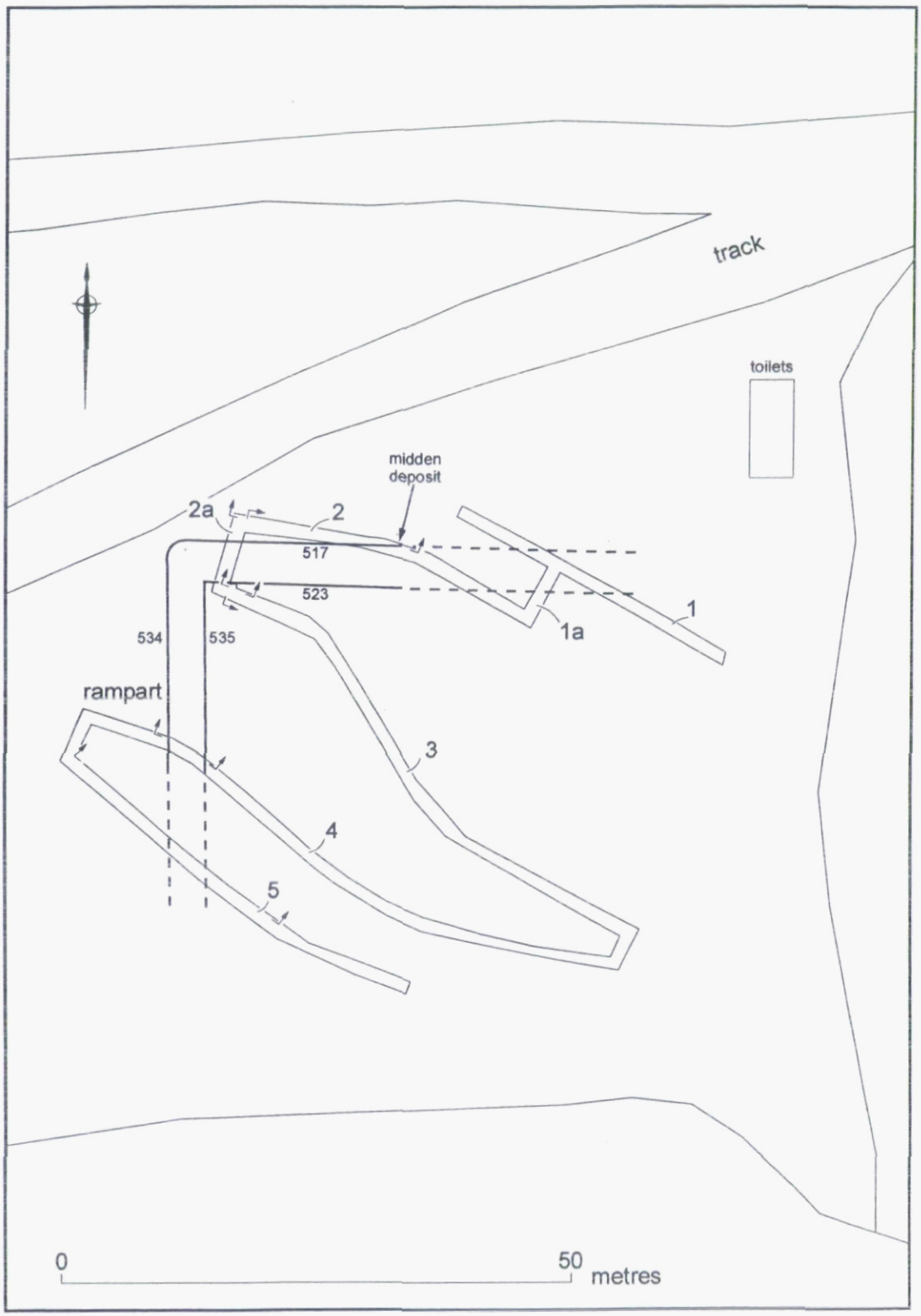

Fig. 4 Location of trenches and section across rampart.

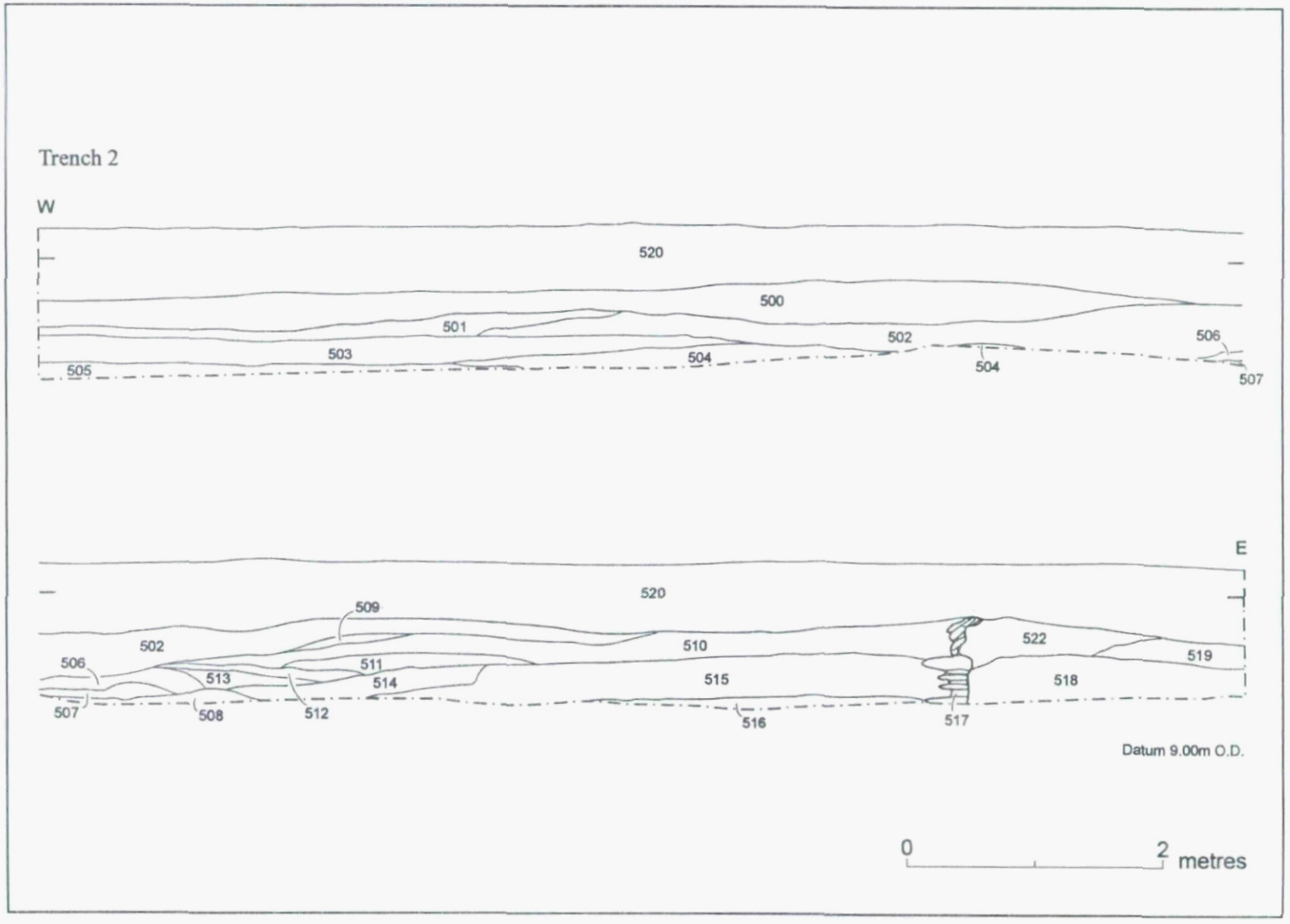

Fig. 5 South facing section in trench 2.

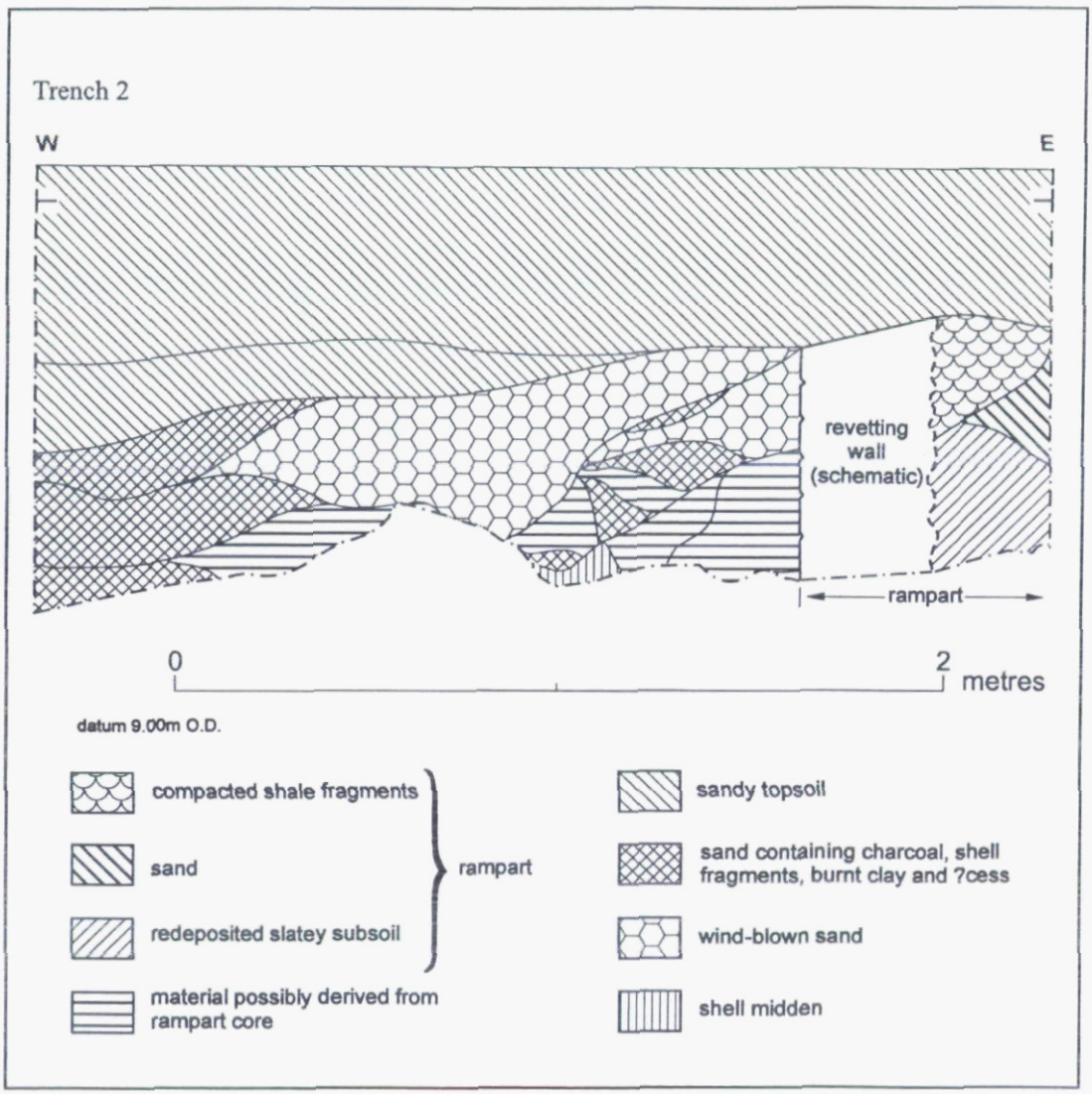

Fig. 6 Rectified south facing section in trench 2.

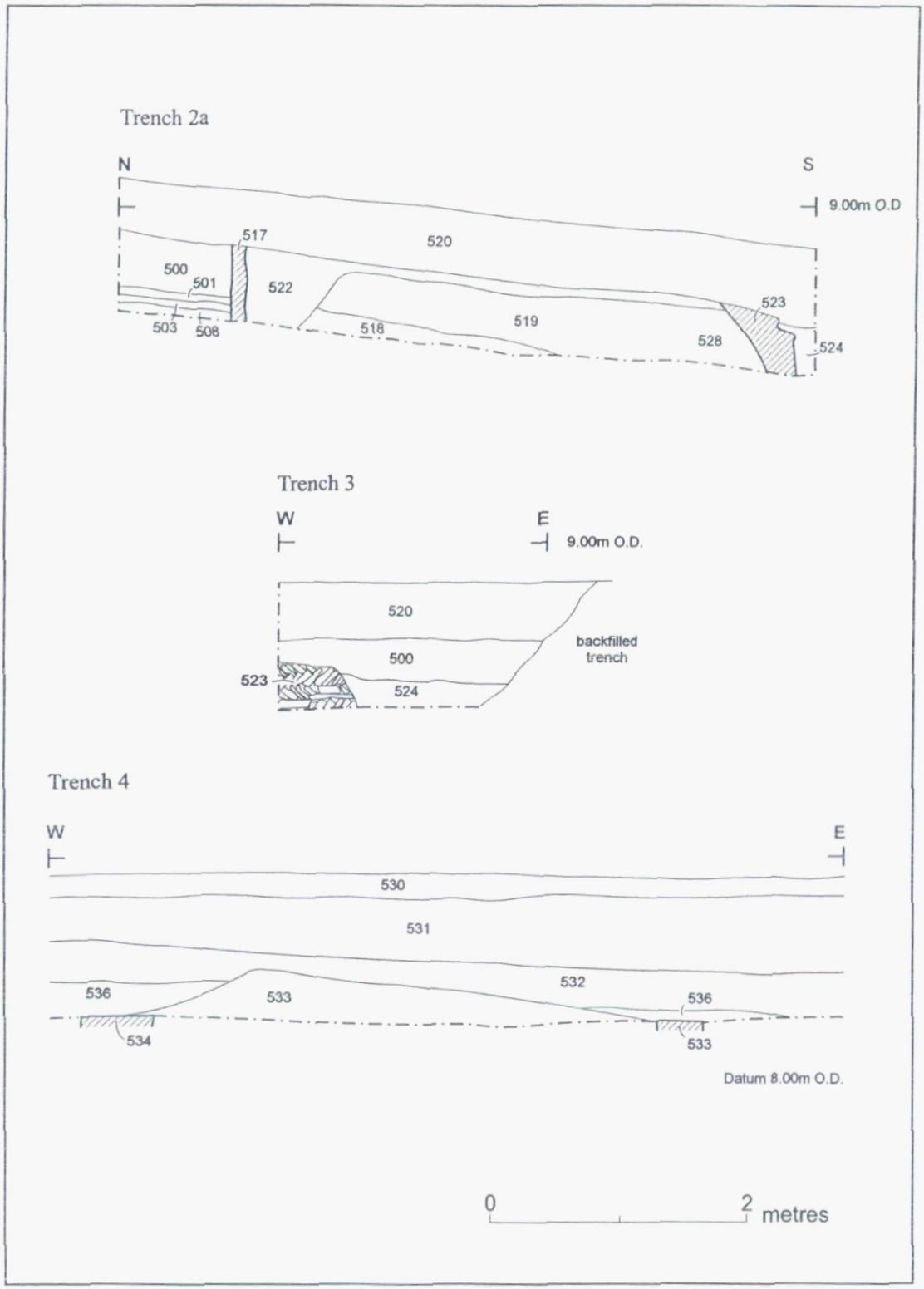

Fig. 7 Sections in trenches 2a, 3 and 4.

Plate 1 The site viewed from the dunes. Looking south.

Plate 2 View westward, landward of the dunes and Scheduled Ancient Monument.The area of scheduled dunes lies to the right of the photograph..

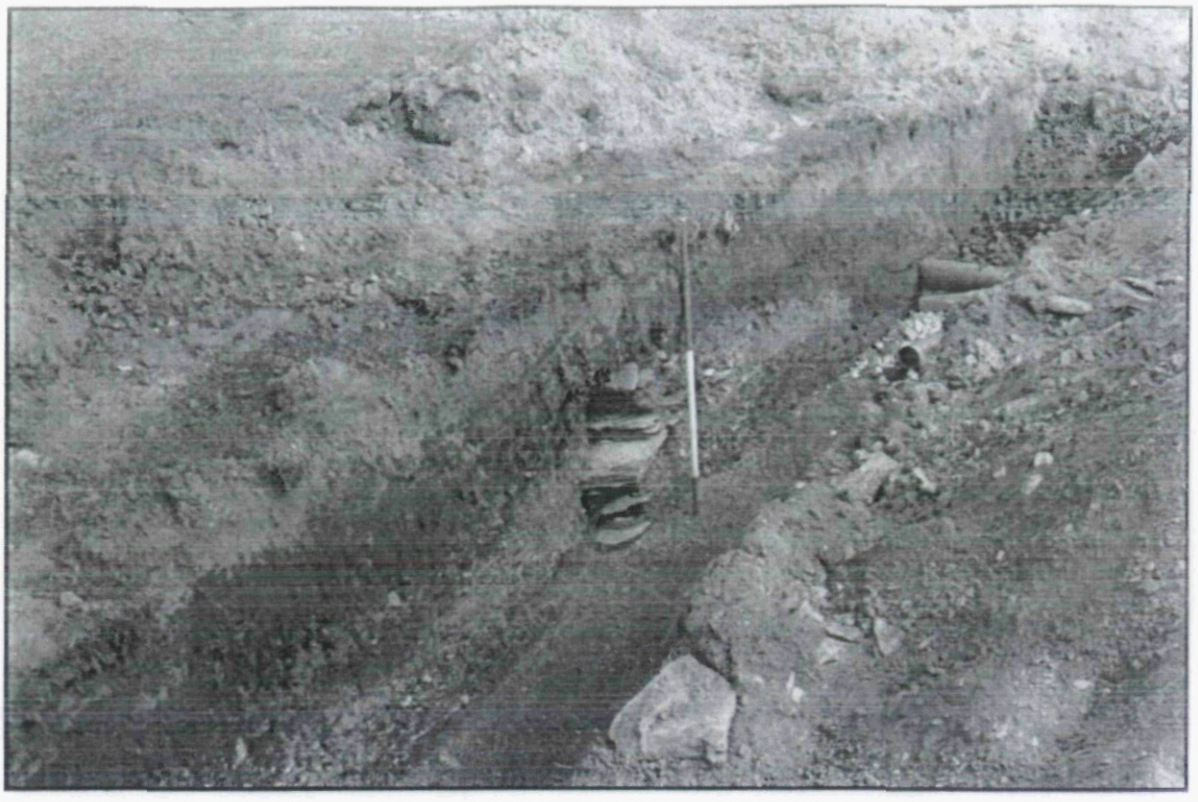

Plate 3 View along the alignment of revetting wall 517, in trench 2. Looking south.

Plate 4 Exposed face of revetting wall 517 in trench 2. Looking south.

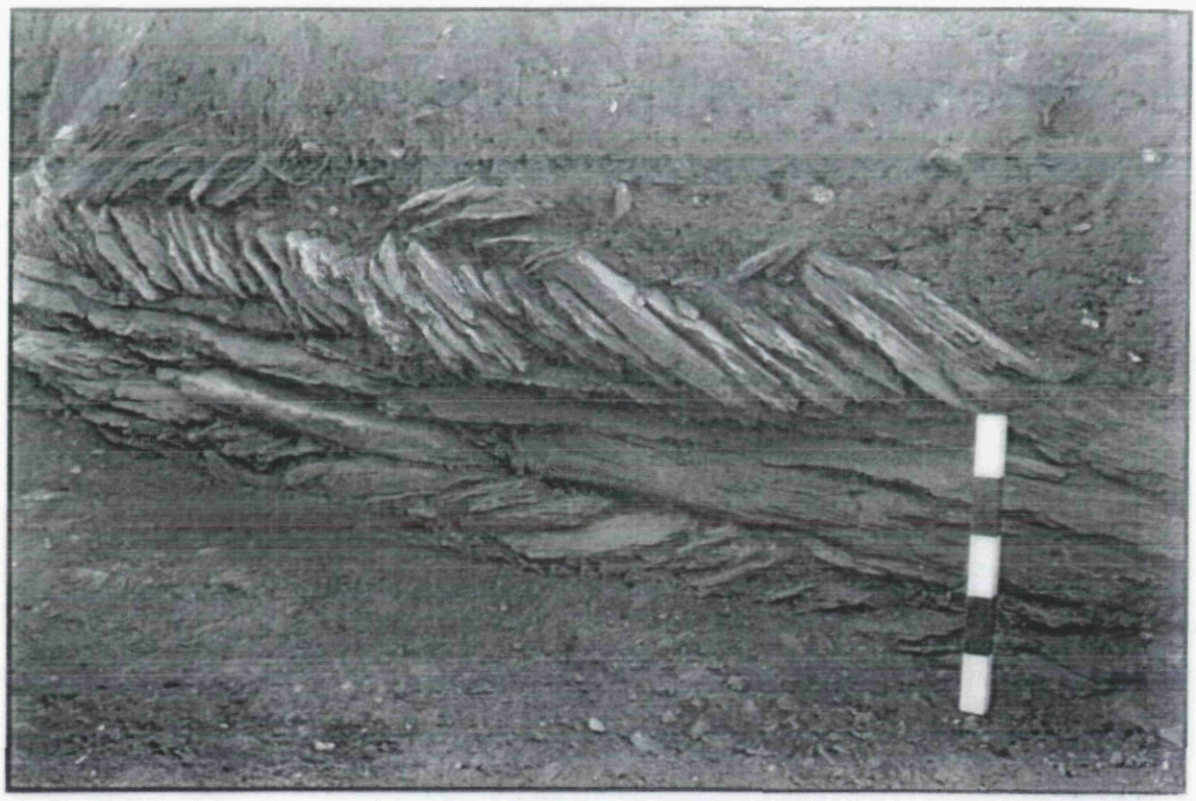

Plate 5 Detail of the facework of revetting wall 517, in trench 2.

Plate 6 Rampart material exposed in trench 2a. Looking south.

Plate 7 Rampart exposed in plan in trench 4. Looking south-east.