INVESTIGATIONS AT THE LLOYD'S BANK SITE, BLEAK BRIDGE, RIVER HUNTSPILL

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Discovery of a stone feature on the Huntspill River at Bleak Bridge prompted investigation by geophysical survey and small scale excavation. The results suggested that the edge of a small settlement of later 3rd to 4th century AD date was present. The limited bone and palaeoenvironmental evidence suggests that it was positioned in a reclaimed landscape in which mixed arable and pastoral farming was being carried out. The timing and character of the occupation accords well with other evidence along the Severn Estuary.

INTRODUCTION

The presence of a Romano-British site at Bleak Bridge was detected by John Lloyd of the Environment Agency who discovered pottery and stone in the north bank of the river Huntspill, downstream of Bleak Bridge during bank grading work on 21st June 2001 (Fig. 1). The site was named in his honour in the tradition of the Somerset Levels Project. A quantity of lias blocks were also brought up by the machine, possibly representing building material.

The Huntspill Cut is a 5 mile long artificial channel that was created in 1940 to act as a reservoir for Royal Ordnance munitions factory at Puriton, although its had a subsidiary drainage function. A watching brief maintained by Harold St George Gray recorded little archaeology as "no doubt much is being missed owing to the use of mechanical diggers; still it is surprising that so little, apparently has been found" (Anon 1940, 6). Sir Harry Godwin's recorded section (Godwin 1981), the work of the Bridgwater and District Archaeology Society over many years and subsequent fieldwork (Grove and Brunning 1998) have all shown that this is far from being the case and that numerous Romano-British saltern mounds were partially destroyed in its creation and by subsequent bank erosion of several metres on both sides of the channel.

Geophysical survey of the site was undertaken in July 2001 by Stratascan using resistivity and magnetometry. Excavation was carried out between the 18th and 28th of September 2001 by Somerset County Council as part of an annual community archaeology project. The project was financed by Somerset County Council and the Environment Agency as part of a partnership project investigating the archaeological sites subject to erosion on the River Huntspill. The excavations of a Romano-British saltern formed the other part of the project and are being published separately.

GEOPHYSICAL RESULTS

A 50m by 44m area between the River and the field boundary to the north was subjected to geophysical survey (Mercer 2001). The resistivity results were inconclusive but the magnetometry suggested the presence of a possible bank and ditch running north-south and the presence of other archaeological features including probable pits and narrower linear features (Fig. 2). The results gave no indication of a stone building.

EXCAVATION RESULTS

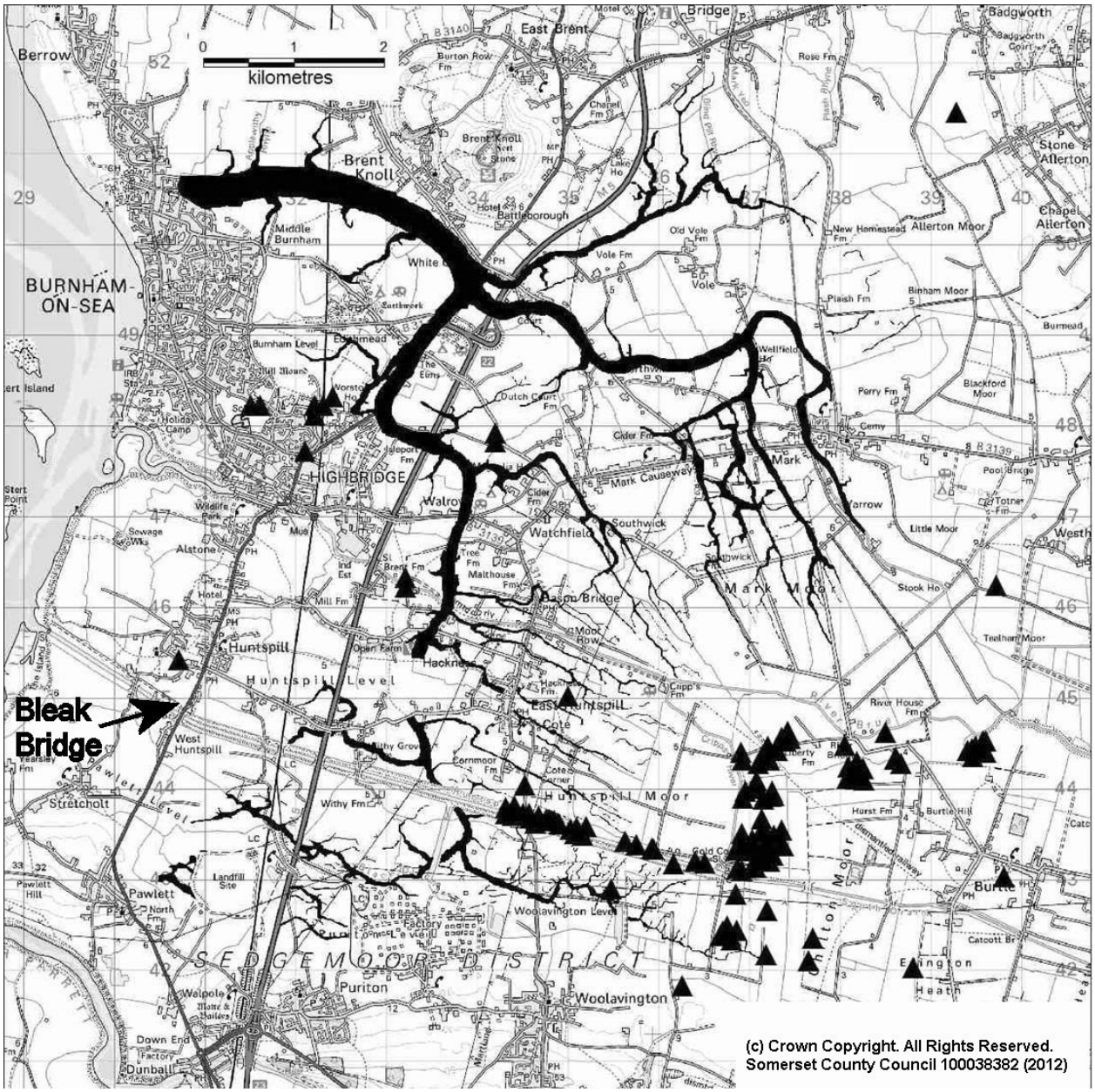

Figure 1. Location of the Bleak Bridge site in relation to finds of Romano-British briquetage (triangles) and the line of the River Siger (as plotted from LIDAR data)

Five trenches (A-E) were excavated, to test the geophysical results and determine the extent and survival of the settlement (Figs. 2 and 3). All of them, except Trench D, contained archaeological features. Trench A (10m by 5m) was close to the bank where the original discovery had been made. Trench B (26m by 2m) ran westwards from the north corner of Trench A and was positioned to investigate potential bank, ditch and pits suggested by the geophysical survey. Trenches C (10m by 3m) and D (10m by 2m) were located further back from the riverbank behind A and were intended to investigate potential archaeological features suggested by the geophysical survey. Trench E (10m by 2m) was opened at the edge of the river once it became clear that the stone spread did not extend northwards as far as Trench A.

Romano-British

The earliest deposit encountered was a layer of blue grey clay that was only seen in trenches C and D. In Trench C the top of this layer (31) was at c.4.53m OD and contained a single sherd of abraded oxidised pottery with no surviving surfaces and a charred red deer antler. The colour

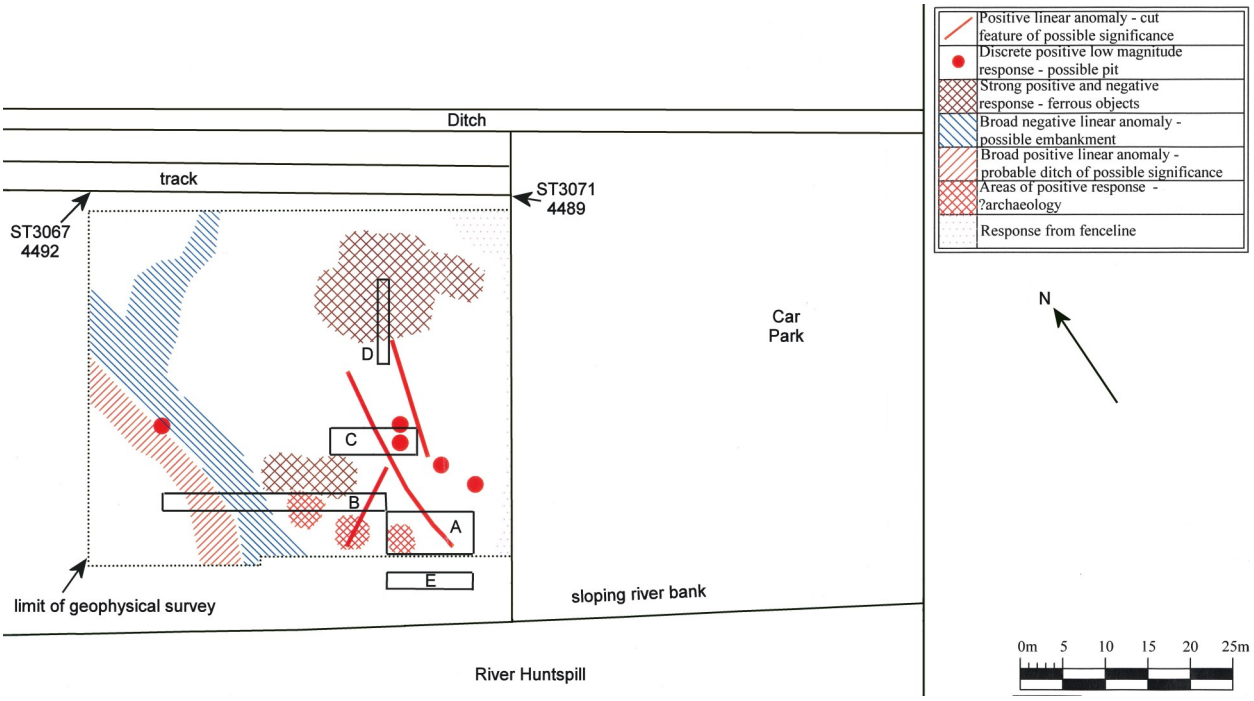

Figure 2. Location of trenches in relation to geophysical survey interpretation

Figure 3. Aerial photograph of the excavations from the south-east (Mr Richards)

and character of the clay are consistent with the estuarine alluvium frequently seen in deposits along the Somerset coastal fringe and recorded by Godwin in his Huntspill section (Godwin 1981). A deep core by Somerset County Council Highways section in 1994 on the NW side of Bleak Bridge revealed that the blue grey clay began at a depth below ground (not levelled to OD) of 3 metres and continued to a depth of 19.3m where it rested on Mudstone. That clay had peat inclusions from 5.2-5.5m down and thin bands of grey sand from 10m, becoming more frequent with depth.

Above the blue-grey clay was a layer of light to dark brown clay in Trenches A-E which contained bone and Romano-British pottery. The top of this layer varied from c.4.90m OD in Trenches A and B to 5.09m OD and 5.05m OD in C and E. The character of the deposit varied slightly in each area. In Trench C the deepest layers were only seen in a narrow sondages (Fig 4 a and b), where a 10cm thick olive brown clay with small stones (24) overlay the blue grey clay (25). Above that was a mid brown clay (23) 0.3-0.5m thick. In Trench B there was a light brown clay (4+5) and in Trench E a similar light brown clay (30) with occasional blue grey clay patches. In Trench B the light grey brown clay (36) sloped down from East to West by c.0.15m over a distance of 2m and became greyer in colour with occasional orange flecks (27). An oval shaped patch of dark grey clay, 0.5x0.4m in size, was on top of context 27.

Several features overlay or were cut into this clay layer. In Trench B a vaguely linear depression, 1.9m wide and 0.1m deep, was recorded running SW-NE. Its primary fill was a light grey clay with orange mottling (6) above which was a thin skim of dark blue grey clay (2) capped by a blue grey clay with charcoal flecks (9) (Fig. 4c and d). The middle fill (2) contained charred plant material, bone and pottery and was similar to the 'occupation layer' (28) in Trench E.

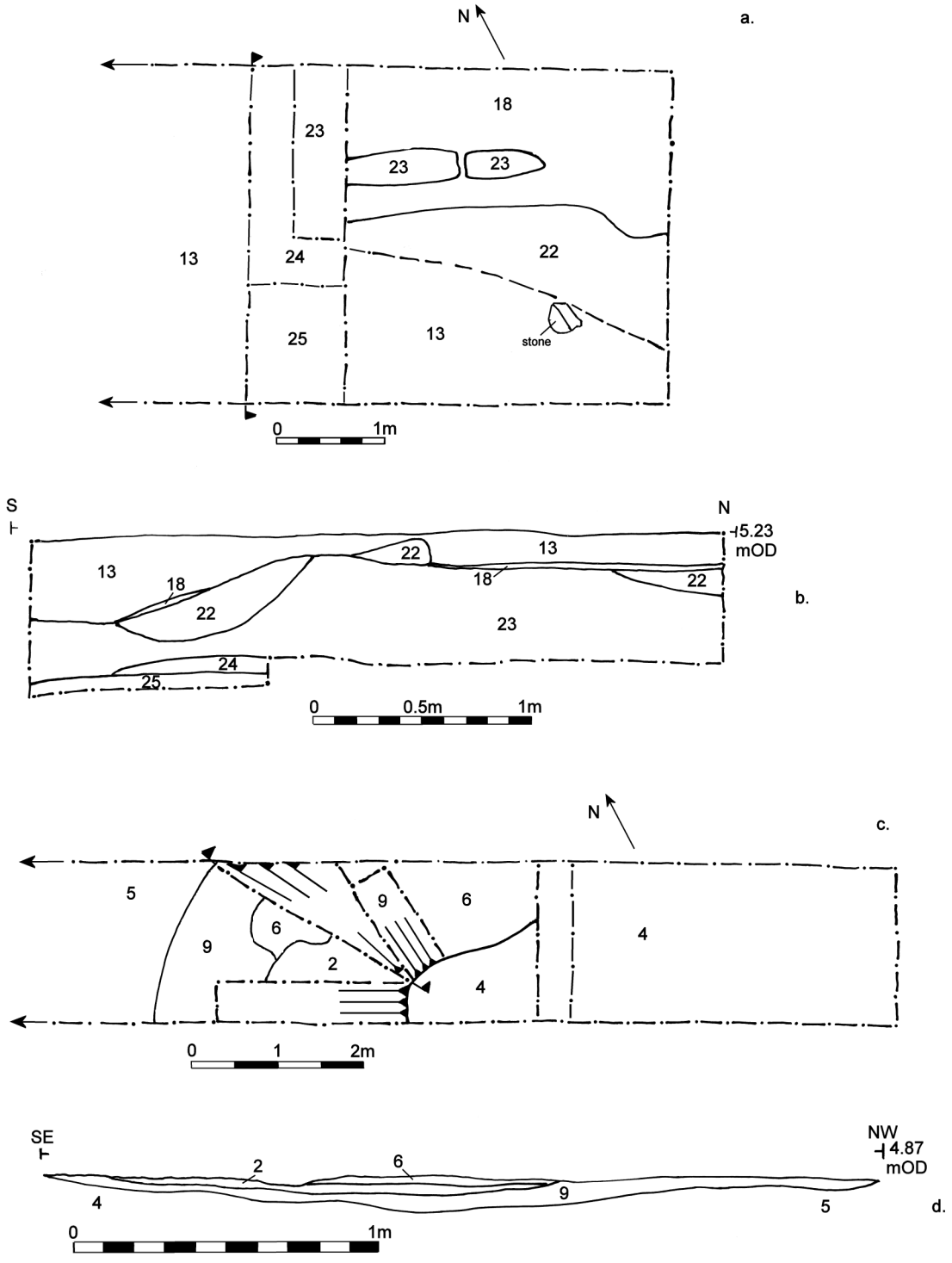

Figure 4. Trench C plan (a) and section (b). Trench B plan of east end (c) and section of depression (d)

In Trench A the deepest layers were only seen in a 4x2m sondage at the East end of the trench. A NE-SW orientated gully [15] cut the grey brown clay (36). It was up to 1.5m wide and 0.25m deep with a shallow sloping tope edge and then steeply

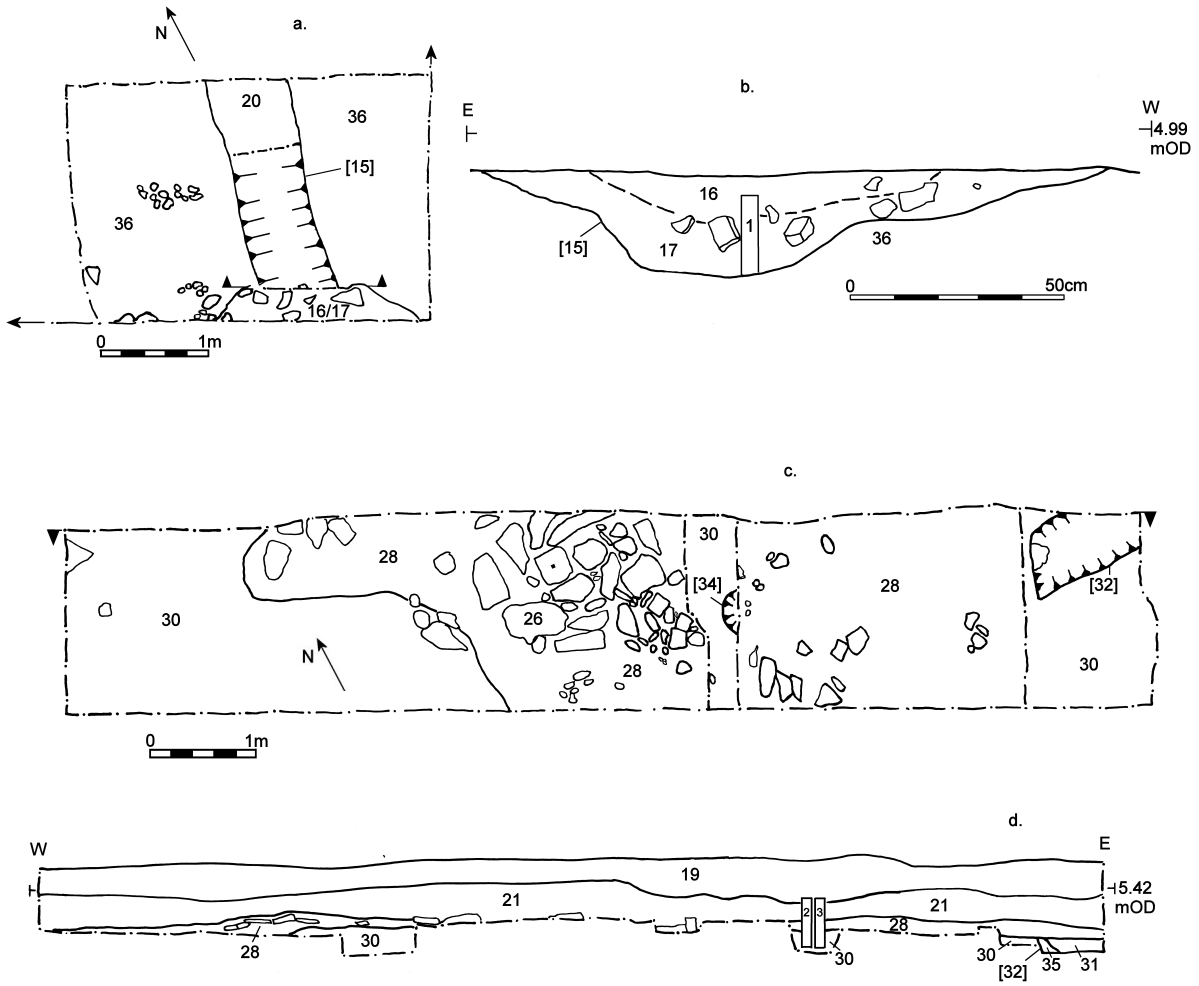

Figure 5. Trench A plan of southeast corner (a) section through gully 15 (b). Trench E plan (c) and long section (d)

angled sides over the lowest 20cm, with a flat to concave bottom (Fig. 5 a and b). Over much of the trench only the steeper sided portion remained forming a feature c.0.8m wide. Its lower fill was an olive green clay with orange mottling (17), overlain by a dark grey-brown clay containing numerous blocks of worked lias stone (16). The stones varied in size from 10x7x6cm to 50x18x12cm. At its northern end the fill became a homogenous brown clay (20).

In Trench E the light brown clay (30) was cut by two features, a probable post hole [34] and a square ended pit [32] (Fig. 5 c and d). The post hole was roughly circular, c.45cm in diameter, and was 4cm deep with a flat bottom. It was filled with a dark grey clay (33). The pit was1m long and continued into the section at the east end of the trench. It was up to 0.7m wide and 7-14 cm deep, with a flat bottom. Its western end was rectangular in shape, with steeply cut sides. Its lowest fill was a light olive green clay containing numerous fragments of fired clay (35) that covered the northern side of the feature and sloped down to the south. This was overlain by dark grey clay (33) that was similar to the layer (28) above it. The unusual shape of this feature and the evidence of charred grain and fired clay (see below) suggest that it may once have formed part of a corn drier.

Overlying the brown clay (30) was a spread of dark blue grey clay (28) that extended over a width of c. 1.8m and was up to 0.2m deep. This contained charred plant material, pottery and bone, suggesting formation during the occupation of the adjoining settlement. Carefully set within this layer were a series of flat lias blocks, forming

Figure 6. The stone setting in Trench E from the north. Scale 0.5m

a fairly level surface at c.5.20-5.23m OD (Fig. 6). Within this was a small roughly square patch of yellow sand (26) 0.5m across and 0.1m deep. The post hole [34] and pit [32] had filled up by, or at, the time layer 28 was created. One of the stones had a central square hole and upon excavation proved to be a stone column base that had been inserted upside down to form part of the hardstanding (see finds below).

Medieval and post-Medieval

In Trench E the Romano-British layers are covered by a 0.3-0.4m thick light grey-brown clay (21), which extends to c.5.4mOD and contains, presumably residual, Romano-British pottery. Above this is a mixture of topsoil and loose blue-grey clay with stones (19) that represents spoil from the recent bank grading works (Fig. 5d).

In Trench A a 17cm thick light grey-brown clay (3) probably equates to context 21, and contains both Romano-British and medieval pottery. This is cut by a NE-SW orientated shallow gully [14], 1.3m wide, 0.1m deep and at least 6m long (Fig. 7). It has sloping sides and a flat base and gradually fades out to the northeast. It is filled with blue-grey clay (11) with occasional charcoal flecks, bone and residual Romano-British pottery. Trench B contained a comparable, 15cm deep, layer of grey-brown clay (1) that contained occasional charcoal flecks and very small bone fragments. That layer was removed by machine.

Trench C exhibited a somewhat different sequence. The Romano-British layers had an undulating surface, possibly reflecting erosion by water channels. The undulating surface was first filled by patches of blue-grey clay (22) of 0.1-0.2cm thickness, overlain a very thin (1-2cm) white sandy silt (18) (Fig. 4). Neither of these deposits produced any finds and they could have formed in the late Roman period. They were overlain by a 0.1-0.5m thick dark olive brown clay (13) that contained charcoal flecks and a mixture of medieval and 18th-19th century pottery. A 1mm thick layer of fine white clay lay on the top of this deposit in several patches c.0.3m by 0.6m in size.

In Trenches A, B, C and D the upper two layers were both removed by machine. These

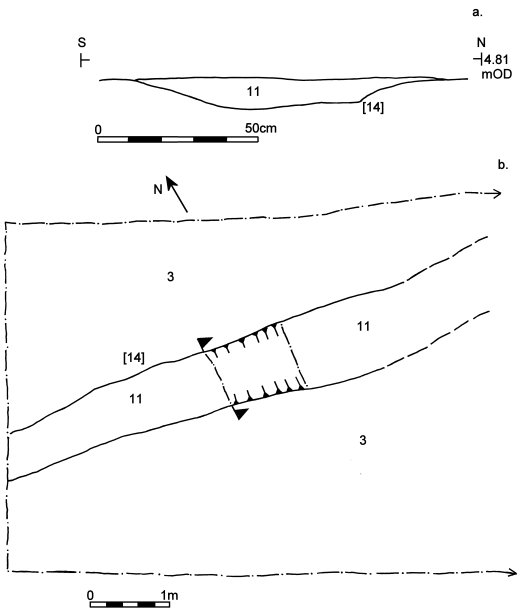

Figure 7. Section of gully 14 (a) and plan of west end of Trench A (b)

consisted of 0.3m thick yellow-green-grey clay (7) covered by a 0.2m deep light grey-brown ploughsoil (8).

POTTERY
(Rachel Seager-Smith)

Method

All the pottery was scanned and spot-dated to establish the range of fabrics and vessel forms present. The number and weight of sherds by fabric type and trench is summarised in Table 1;

full details can be found in the archive. Where appropriate, the vessel forms were cross-referred to well-known published type series (eg Fulford 2000, Young 2000, Holbrook and Bidwell 1999 and Seager Smith and Davies 1993) but descriptions of new and/or unusual forms are contained in the archive. A few conjoining sherds were noted (especially between contexts 19 and 28 in Trench E), providing evidence of links between deposits.

Results

The condition of the assemblage was variable. Small, scrappy, abraded sherds, probably representing disturbed or redeposited material, were recovered from Trenches A, B and C while much larger quantities of moderately well-preserved sherds were found in Trench E. The mean sherd weight for the assemblage as a whole was 11g.

Coarsewares predominate but a few fineware sherds were also found. These included two joining sherds of Central Gaulish samian of 2nd century AD date as well as products of the Late Roman Oxfordshire (Young 2000) and New Forest (Fulford 2000) industries. Few featured sherds were recognised, but the Oxfordshire red colour-coated wares included a rim from a shallow bowl copying samian form 31 and pieces from a mortarium copying samian form 45, both made throughout the life of this industry (Young 2000, 158 and 173). An unusual bowl base in this fabric was also found during machining (context 19) in Trench E. Although of typical footring form, and probably originally from a bowl, this base had an internal ridge and is unparalleled in

Pottery	**Trenches:**									
	A		**B**		**C**		**E**		**Totals**	
Fabric	**No.**	**Wt.**	**No.**	**Wt.**	**No.**	**Wt.**	**No.**	**Wt.**	**No.**	**Wt**
Roman:										
Black Burnished ware	17	102	14	60	8	61	284	3178	323	3401
Gritty grey wares	10	56	6	66	2	8	81	1269	99	1399
Sandy greywares			2	9	1	12	34	276	37	297
Oxfordshire red slipped ware	5	10	6	71	1	1	8	180	20	262
Oxidised sandy wares			1	6	5	14	2	7	8	27
New Forest colour-coated ware			3	28			4	9	7	37
Central Gaulish samian					2	7			2	7
Medieval:										
Sandy glazed wares	1	2			1	2			2	4
Post-medieval:										
White ‘china’					1	1			1	1
Glazed earthenwares					3	7	1	2	4	9
Totals	33	170	32	240	24	113	414	4921	503	5444
Mean sherd weight	5g	5g	7.5g	7.5g	5g	5g	12g	12g	11g	11g

Table 1. Number and weight (g) of sherds by fabric from each trench

Young's corpus. The vessel walls appear to have been deliberately trimmed away and it is possible that once broken, the base was altered and inverted so that the internal ridge became the footring base of a small, shallow dish. The New Forest colour-coated ware sherds were all from beaker forms, including a globular bodied form with a tall neck and a narrow mouth (Fulford 2000, 52, type 30) made only during the 4th century AD.

South-east Dorset Black Burnished ware was the single most common fabric, representing 65% of all the Roman sherds. The vessel forms were largely restricted to the characteristic Late Roman types (everted rim jars, narrow-necked jars with flanged rims, circular and oval shallow, straight sided dishes and dropped flanged bowls - Seager Smith and Davies 1993, 231-5, types 3, 11, 20, 21 and 25), while the surface finishes and decoration were also typical of this period. One or two earlier sherds, including a rim from an upright necked jar from the subsoil (context 21) in Trench E, were also recognised.

All the other fabrics are likely to be of relatively local origin. The wheel-thrown gritty grey wares, which account for a further 20% of the Roman assemblage, represent the products of a series of interrelated industries supplying local markets in Somerset and east Devon between the later 2nd and 4th centuries AD (Holbrook and Bidwell 1991, 19). The vast majority belonged to the type B fabric recognised at Pomeroy Wood (Seager Smith 1999, 310-11) and characterised by white mica and large, rounded, white or translucent quartz and with only two pieces of the type A ware being identified. The vessel forms comprised a range of upright-necked, everted and moulded rim jars (Holbrook and Bidwell 1991, fig.66, 8, 10 and 12) in a variety of sizes although no thick-walled storage jar sherds were noted. The sandy greyware fabrics are also likely to be from several different centres. The few oxidised sherds represent a range of medium-quality 'table' wares between the true finewares and the utilitarian kitchen vessels and probably derive from bowl and/or flagon forms. The combed wavy-line decoration seen on two greyware jar sherds from Trench E (contexts 19 and 28), is uncommon in the south-west although it has been noted on Late Roman pottery from mound H103 on the Huntspill River (Seager Smith 2000), at Ilchester Mead (Haywood 1982, fig.34, 7, fig.37, 6, 11 and

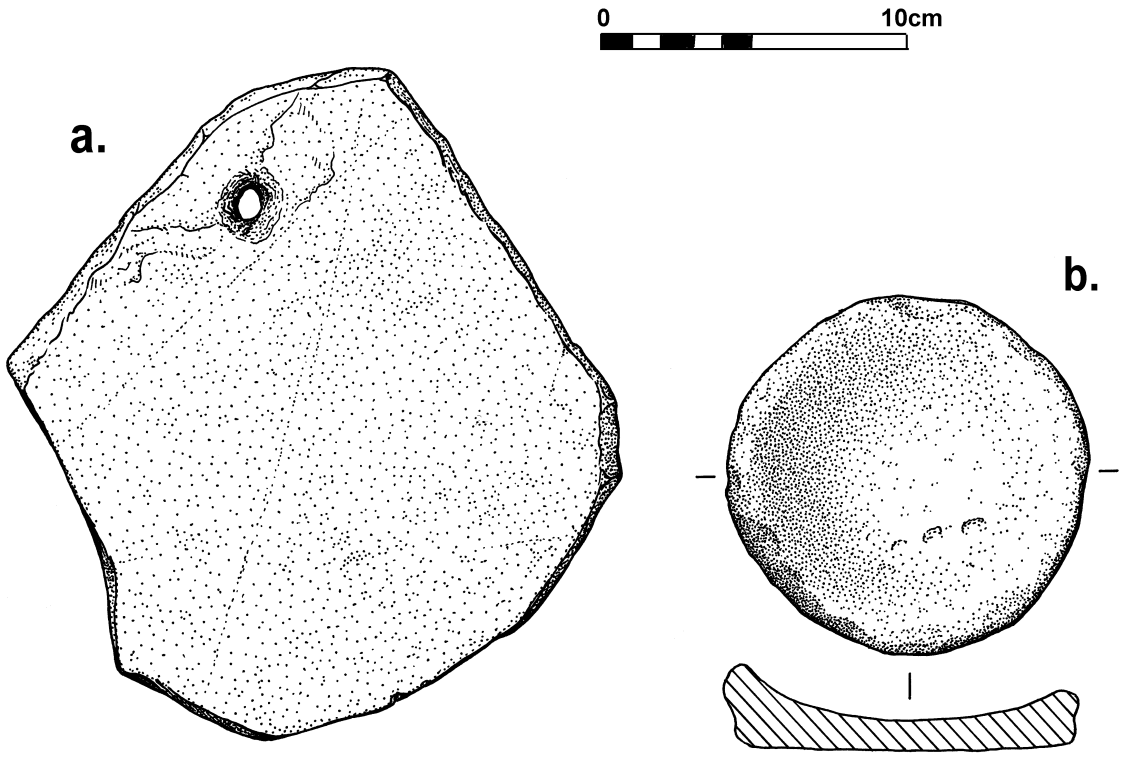

Figure 8. Roof stone from context 28 (a) and a piece of Lias used as a mortar (b).

13) and at Lamyatt Beacon (Leech 1986, fig.21, 37).

Although predominantly of later 3rd to 4th century AD date, the presence of samian and the few recognisable sherds of 1st to 2nd century AD Black Burnished ware hint at earlier activity in the vicinity at least on a small scale. Overall, the condition, range and nature of the pottery is consistent with the deposition and redeposition of domestic debris from a small, Late Roman, rural community with access to locally-made and regionally imported goods. The presence of the oxidised wares, New Forest and Oxfordshire finewares, including mortaria, distinguish this as a domestic assemblage contrasting with the strictly utilitarian coarsewares so far recovered from salterns in the area (Seager Smith 2000 and 2002). No wasters or other evidence for pottery production were noted in this assemblage, although manufacturing sites have been identified in the vicinity (Swan 1984, mf.4.585-593).

The medieval sherds were both of a moderately coarse Bristol type fabric with traces of green glaze on the exterior surfaces. They are of 12th to 14th century AD date and probably belonged to jug forms. Both were found relatively high in the stratigraphical sequence, in Trenches A (layer 3) and C (layer 13) although the position of the sherd in Trench A suggests that gully 14 is of later medieval or post-medieval date. The five post-medieval sherds were all of late 18th or 19th century date; those from trench C were also found in layer 13 while that from trench E was recovered during machining (context 19).

OTHER FINDS
(Richard Brunning)

There were very few finds other than pottery (bone is considered separately below). The most significant item was the column base that had been reused upside down in the area of hardstanding in Trench E (Figs. 9 and 10). It was well made from a block of Oolitic Limestone that could have been a product of quarries at Doulting or Bath. The square base was 313x300mm and was 80mm thick. One corner of the base was damaged and the underside had been significantly worn, presumably during its use in the hardstanding. In the centre of the base was a 53mm square hole that had been cut to a depth of 63mm. The circular column varied from a diameter of 295mm to 185mm. It was roughly broken across at its upper end.

David Lloyd of the Environment Agency found half a millstone from dredging spoil near the site and a roughly carved stone column fragment was also discovered from the same material at the beginning of the excavation. A small iron object, 30x20x20mm, from context 16 in Trench A was the only find from the excavation not from Trench E.

A 115mm diameter and 15-20mm deep, circular piece of Lias, which may have been used as a mortar, was recovered from context 21 in Trench E (Fig 8b). All the other small finds were from the main occupation layer, context 28. The stone spread contained four pieces of iron, three of which were nails and one a broken flat piece of uncertain function. Two small pieces of lead were present and a 3mm diameter and 25mm long metal rod of uncertain purpose. From the eastern end of the trench near pit 32 were a tiny piece of bronze, a 15mm diameter and 60mm long piece of iron, possibly a hook, and a small glass fragment, 26x16x7mm, possibly representing part of a vessel base.

Several pieces of possible roofing stone were found in Context 28, one of which, although broken, retained its characteristic nail hole (Fig. 8a). This provides some evidence for the roofing material of the buildings presumed to be lost in the Huntspill River.

LANDSCAPE AND ECONOMY

Evidence for the character of the surrounding landscape and the nature of farming activity carried out in the local area was gathered from the bone, mollusc and plant remains recovered from the excavations. The evidence was limited in quantity and level of preservation and therefore care must be taken with the weight placed on the interpretations. Taken together, however, they do give consistent evidence that is discussed briefly at the end of this section. Samples were assessed for diatoms from monoliths 1 and 2 and context 28 by Nigel Cameron, but none were present. Pollen samples from context 28 were examined by Heather Tinsley but very few grains were present and those that existed were in a very poor state of preservation. It was therefore impossible to use the results as reliable evidence of the character of the local environment.

ANIMAL BONE
(Lorrain Higbee)

Methodology

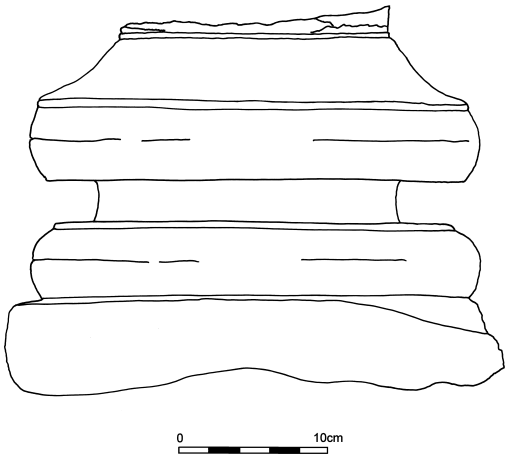

Figure 9. The stone column fragment reused in context 28

Figure 10. The stone column base. Scale 30cm.

A small assemblage (102 fragments or 2,067 grams) of animal bone was recovered from 19 separate contexts. The entire assemblage was subjected to assessment by rapidly scanning and the following information recorded; species, skeletal element, age related features, completeness for biometric analysis, as well as more general observations on butchery, taphonomy and pathology. This information was entered into a database and is available in the site archive. Approximately 73.5% of bone fragments could be identified to species, a further 18.4% could be assigned to general size categories (i.e. "cattle-sized") and the remaining 8.1% are undiagnostic splinters of bone greater than 2cm. The assemblage is small and the quantity of detailed information (e.g. age and mensural data) was considered insufficient to justify any further analysis.

Results

Like most animal bone assemblages from British archaeological sites stock species dominate the assemblage (Table 2). Sheep/goat is the most common species forming 48% of the number of specimens identified to species (or NISP). Cattle and pig bones are also fairly common forming a further 17.3% and 10.2% of NISP respectively. Other less common species include red deer, *Cervus elaphus* and domestic fowl both of which are represented by one specimen each.

Loose teeth are a common feature of the assemblage and although the assemblage is small most portions of the mutton carcass are represented and there is a bias towards beef joints from the forelimb.

Indirect evidence for the presence of carnivores take the form of gnaw marks which were observed on 6% of fragments. Exfoliated and/or abraded bone fragments were also recorded and the majority are from context 28 suggesting that at least some of this material may be residual. In addition six charred and/or calcined bone fragments were also recovered.

Chop and/or cut marks were observed on only three bone fragments and in addition two worked bone fragments were recovered. The first, a sheep/ goat metacarpal from context 28 has a circular perforation through the proximal medial articular surface and a slight degree of surface polish resulting from use. The object is broken mid-shaft and therefore its precise form and function cannot be ascertained. The second worked bone is a small fragment of red deer antler from context 31. The fragment is completely charred and retains one smooth, bevelled edge.

The assemblage is fairly well preserved and most fragments can be identified to species. A small number of fragments were recorded with exfoliated cortical surfaces and/or edge abrasion resulting from weathering prior to burial. The majority of this evidence was recorded on the relatively large collection of bone from context 28 and suggests that this context may include residual

Species	**NISP**
Sheep/goat	47
Cattle	17
Pig	10
Red deer	1
Domestic fowl	1
Sheep-sized	12
Cattle-sized	6
Unidentifiable	8
Total	***102***

Table 2. Number of identified specimens per species (or NISP).

material.

CHARRED PLANT REMAINS
(Julie Jones)

Methodology

Five bulk samples were sieved in a flotation tank for the retrieval of environmental evidence. Sample residues were retained on a 1mm mesh, with the floats on a 250 micron sieve, both residues and floats then allowed to dry before sorting. The floats, although small, from 5 to 25ml in volume, produced a surprisingly large assemblage of charred weed seeds , up to 1214 in context 2, with occasional charred cereal remains. These were all extracted using a low powered binocular microscope and identified with use of the author's reference collection. Results are shown in Table 3. Nomenclature and habitat information for the weeds is based on Stace (1991). Preservation of the seeds was very good, although the condition of the cereal grain was poor with the few wheat chaff items very fragmented. A record was also made of other remains in both floats and residues, which included fragmentary animal bone, small pottery sherds and both land and water snails.

Results

Two of the samples were recovered from the main occupation layer 28 in Trench E which formed a darker horizon about 14cm thick below the subsoil and overlying the lighter grey alluvium and was associated with animal bone, pottery and charcoal. A further thin dark grey clay layer (context 2) in Trench B, also containing charcoal, bone and pottery, was sampled. The remaining two samples were from features; context 17, from the olive green clay fill of a small gully (15) and the fill (context 31) of a small square ended pit (32).

The charred weed assemblages from each of these deposits are very similar with the same species recurring. However most of the limited evidence for cereals occurs in the fill of the small square-ended pit 32. Here a total of 38 grains included wheat (*Triticum* sp) and barley (*Hordeum* sp) grains with a few wheat glumes. The few better preserved wheat grains were typical of spelt, as described by Jacomet (1989) with the glume bases and spikelet fork, although fragmented, of a hulled wheat variety. Two of the better preserved barley grains still showed traces of the lemma and palaea and have therefore been identified as a hulled variety. A single fragmented oat (*Avena*) grain occurred in the pit fill, but the evidence is insufficient to suggest if this was an additional crop or occurred as a crop weed. There were also over 100 silicified fragmented wheat/ barley awns, found only in this feature. Silicification is a process shown to occur in high temperature oxidising conditions, typical of a bonfire that had burnt down to a heap of glowing charcoal. All the carbon is burnt out, leaving the silica skeleton of remains such as cereal chaff. Silicified remains have been recovered from other sites from contexts such as corn drier flues and oven or kiln floors (Robinson and Straker 1991) and it may be possible that the material found in this feature originated from a similar context.

Most of the evidence comes from the charred weed assemblages present in all the samples and due to the similarity between the contexts, they will be discussed together. Common arable weeds found include stinking chamomile (*Anthemis cotula*), which has a preference for heavy damp soils, bartsia/eyebright (*Odontites/Euphrasia*), fat-hen (*Chenopodium album*) and orache (*Atriplex*), as well as twining species, black-bindweed (*Fallopia convolvulus*) and cleavers (*Galium aparine*), which could easily have become attached to cereal stems and cut with them at harvest. Many of the other species are more commonly thought of today as grassland species. Most frequent are clover/medick (*Trifolium/ Medicago*), with a few better preserved examples identified as black medick (*Medicago lupulina*), a low growing annual of short grassland. Although most of the other clover/medicks could not be identified further, from their small size (averaging

1 x 1mm), it is suggested they may be lesser trefoil (*Trifolium dubium*), typical of short, dry grassland or arable ground (Blamey and Grey-Wilson 1989). Other grassland species include ribwort plantain (*Plantago lanceolata*), selfheal (*Prunella vulgaris*) and a number of grasses, particularly meadow-grass/cat's-tail (*Poa/Phleum*) and bents (*Agrostis*), typical of a range of grassland habitats from damp meadows, pastures to rough ground, with crested dog's-tail (*Cynosurus cristatus*) found in meadows and pastures on a wide range of soils (Fitter, Fitter and Farrer 1987). There are also suggestions of areas of damp ground from the presence of rushes (*Juncus*) and a single spike-rush (*Eleocharis palustris/uniglumis*), the latter a plant of damp places, frequently found in association with charred cereal assemblages. The rushes were preserved in both a charred and waterlogged state and with the aid of identification keys produced by Korber-Grohne (1964), these have all been placed in the *Juncus effusus* group, which includes soft rush (*Juncus effusus*) and hard rush (*Juncus inflexus*), both typical of damp grassy places, soft rush which occurs especially in badly drained fields and compact rush (*Juncus conglomeratus*), in similar habitats, but avoiding limey soils (Fitter, Fitter and Farrer 1987).

Discussion

Only limited evidence was recovered from Bleak Bridge with regard to the cultivation of cereal crops, although there is a suggestion for the presence of spelt wheat, barley and possibly oat, recovered from the fill of the small pit (context 31) and from the main occupation layer 28. The bulk of the charred remains came from an abundance of weed seeds, many of them typical of disturbed ground or grassland habitats today, but which are frequently recovered in association with charred cereal remains from archaeological contexts. This suggests that they were growing with the cereal crops, or on field margins, or adjacent to boundary ditches, which may have been wet and all gathered at harvest.

Spelt is a hardy cereal which thrives on heavy soils and is ideal for winter sowing. Typical weeds of autumn sown crops, like spelt (the Secalietea) include stinking chamomile, which also prefers heavier soils and some species of vetch (*Vicia*), both found at Bleak Bridge. Many of the other species recovered are typical of the vegetation of open habitats as described by Rodwell (2000). The *Poa annua - Senecio vulgaris* community (OV10 p360-4) is characteristically a pioneer weed assemblage of open cultivated or trampled ground, especially where fertile soils have become moist. Many of the species recovered in the deposits at Bleak Bridge; stinking chamomile, docks (*Rumex*), knotgrass (*Polygonum aviculare*), black-bindweed and grasses (*Agrostis* and *Poa*) are opportunists able to germinate quickly in newly cleared ground and are likely to have occurred patchily within and around the cereal crops.

The area around Bleak Bridge lies on marine alluvium, consisting of deep stoneless calcareous clayey soils of the Newchurch 2 Soil Association (Soil Survey of England and Wales 1983). It is a flat landscape, today mostly under permanent grassland with winter cereals, although susceptible to flooding. There is therefore a need for drainage to allow cultivation as cereals would not tolerate waterlogged soils from winter flooding and the same is likely to have been the case in the Roman period. Other archaeobotanists have suggested that some parts of fields used for crop cultivation in the past may have been poorly drained or use was made of marginal land (Jones 1978). Some species therefore may have invaded from adjacent unploughed fields or have persisted as residual species from before the fields were cultivated. Areas of damp ground are suggested at Bleak Bridge by the presence of rushes, both charred and waterlogged and suggests that boundary ditches, likely to have been created primarily for drainage occurred at the field margins.

It has been suggested that, although the charred remains occurred in secondary contexts, the presence of the weed assemblage and silicified wheat/barley awns may have originated from cleanings from an oven or kiln, these fine items perhaps having trickled down from a drying floor. They could also represent the remains of fine sievings from crop processing, then used in hearths as tinder. It seems likely that crop production would have been local with fields cultivated for wheat and barley, perhaps surrounded by boundary ditches used primarily for drainage. A similar landscape was identified at Kenn Moor in the North Somerset Levels, also on an area of marine alluvium. Excavation here recovered cereal remains in a secondary context from a ditch surrounding a 3rd to 4th century corn drier mound. The recovery of spelt wheat and barley was suggested to have been from the parching of spikelets prior to milling or drying prior to storage and here too it was suggested that cultivation was local. Macrofossils from an

	Context	**2**	**20**	**31**	**28**	**28**	
	Sample	**1**	**2**	**3**	**4**	**5**	
	Sample size (kg/litres)	13.3/ 14	7.5/8	10.8/ 11	18.5 /19	19.7/ 20	
	Size of float (ml)	20	5	15	25	20	**Habitat**
Charred weeds							**Habitat**
RANUNCULACEAE							
Ranunculus acris/repens/bulbosus	Meadow/ Creeping/ Bulbous Buttercup				1		DG
CHENOPODIACEAE							
Atriplex spp	Orache	8		5	5		CDn
Chenopodiaceae indet	Goosefoot family	2					
Chenopodium album L.	Fat-hen			5			CDn
POLYGONACEAE							
Fallopia convolvulus (L.) A.Love	Black-bindweed			2			CD
Persicaria lapathifolia (L.) Gray	Pale Persicaria				1		Cdow
Polygonum aviculare L.	Knotgrass	5			1		CD
Rumex spp	Dock	3		2	8	2	DG
BRASSICACEAE							
Barbarea vulgaris R. Br.	Winter-cress	1	1				DHRw
Brassica c.f. *nigra* (L.)Koch	Black Mustard	8					DRWs
Brassica/Sinapis sp	Mustard/Rape/Cole etc	2			3		CD#
FABACEAE							
Lathyrus/Vicia spp	Pea/Vetch	1			1		DG
Medicago lupulina L.	Black Medick	4		1	2		GR
Trifolium/Medicago spp	Clover/Medick	891	16	50	142	70	DGR
Trifolium/Medicago spp (?immature seeds)	Clover/Medick	127	9	15	95	34	DGR
LINACEAE							
Linum sp	Flax				1		
LAMIACEAE							
Prunella vulgaris L.	Selfheal				2		DG
PLANTAGINACEAE							
Plantago lanceolata L.	Ribwort Plantain	3	1		2	1	G
Plantago major L.	Greater Plantain	28		9	26	3	CDGo
SCROPHULARIACEAE							
Odontites/Euphrasia sp	Bartsia/Eyebright	81	4	12	27	7	CD

Table 3. Charred plant remains

RUBIACEAE							
Galium aparine L.	Cleavers			1			CHSo
ASTERACEAE							
Anthemis cotula L.	Stinking Chamomile	8	1	6	18	10	CDh
LEMNACEAE							
Lemna sp (waterlogged)	Duckweed		1				A
JUNCACEAE							
Juncus effusus group	Soft Rush	9	2	80	55	43	GMRw
Juncus effusus group (waterlogged)	Soft Rush		16	40	21	1	GMRw
CYPERACEAE							
Carex spp	Sedge	1		2	3		GMPRW
Eleocharis palustris/uniglumis	Spike-rush			1			MPw
POACEAE							
Agrostis spp	Bents	5		8	26	5	DGRw
Bromus sp	Brome			1			CD
Cynosurus cristatus L.	Crested Dog's -tail			2	2		G
c.f. *Festuca* spp	Fescue			2	5		DGHRw
c.f. *Lolium* spp	Rye-grass			1	2		DG
Poaceae indet	Grass	9		11	26	9	
Poa/Phleum spp	Meadow-grass/Cat's-tail	13		8	30	4	G
Phleum spp	Cat's-tail				4		G
Indet seeds		2	1				
	Total charred seeds	**1211**	**52**	**264**	**509**	**189**	
Charred cereal remains							
Grain							
Avena sp	Oat			1			
Hordeum sp (hulled)	Hulled Barley			2			#
Hordeum sp	Barley			8			#
c.f. *Hordeum* sp	Barley			1	1		#
Triticum sp	Wheat			13	3		#
c.f. *Triticum* sp	Wheat			3			#
Cereal indet				11	1		#
	Total grain	**0**	**0**	**39**	**5**	**0**	

Table 3. Charred plant remains (continued) *# = cultivated plant/of economic use*

Chaff	**Chaff**	**Chaff**	**Chaff**	**Chaff**	**Chaff**	**Chaff**	**Chaff**
Triticum sp (hulled wheat glume base)	Hulled Wheat	2		4	1		#
Triticum sp (hulled wheat spikelet fork)	Hulled Wheat			1			#
Triticum/Hordeum (silicified awns)	Wheat/Barley			100+			#
Other remains							
Animal bone		c50 f	2f	<30f	c40f	c30f	
Copper object						1	
Egg shell				31f			
Fired clay				c40f			
Pottery sherd fragments		5		8		6	
Snails		33	c200	29	44	77	

Table 3. Charred plant remains (continued) *# = cultivated plant/of economic use*
Habitats *A: Aquatic C: Cultivated/Arable D: Disturbed G: Grassland H: Hedge-row M: Marsh P: Ponds, ditches - stagnant/slow flowing water R: Rivers, streams S: Scrub W: Woodland d: dry soils h: heavy soils n: nitrogen rich soils o: open habitats s: coastal w: wet/damp soils*

adjacent palaeochannel suggested a predominantly freshwater environment, but subject to periodic marine flooding (Jones 2000).

MOLLUSCS
(Paul Davis)

Method

Molluscan assemblages picked from five bulk samples were provided following macroscopic plant analysis by Julie Jones. The snails were, on the whole, very well preserved, with some from context 31 blackened by burning.

Results and interpretation

The Mollusca recovered are detailed in Table 4. Generally, 100-150 shells are required for meaningful interpretation. Hence, the interpretation of most samples must be considered tentative.

Context 28
The same four terrestrial species were represented in both samples. The paucity of species indicates a simple, open environment. Evan (1991) describes *Vallonia excentrica-Vertigo pygmaea* assemblages as indicative if grassland. If grassland, it was very short, and seemingly very dry.

Context 2
Here the *Vallonia* and *Vertigo* would again suggest probable grassland. The three aquatic species present are all freshwater species, though all are capable of living on damp soils.

Context 20
Again, the terrestrial species taken together are indicative of grassland. *Pupilla muscorum* does occur in floodplains (Davies 1996: Davies and Grimes 1999), and it has recently been argued that it may be indicative of cattle (rather than sheep) grazing (Davies 2003), though as only one individual is present this might seem an over-interpretation here (it can also indicate a broken ground surface – eg through cracking or drying). The acquatics indicate some freshwater influence, though this may be from high groundwater levels (eg seasonal) rather than from flooding.

Context 31
Again, probable grassland. Minimal freshwater influence. Some of the shells were burnt.

SUMMARY

The excavation results suggest that the majority of the Lloyd's Bank settlement was destroyed during the creation of the Huntspill Cut in the 1940s and through bank erosion in subsequent decades. It was created in an area of land that had been reclaimed from salt marsh. The occupation may have begun by the 1st to 2nd century AD but the main phase of activity spanned the later 3rd to 4th century. The pottery suggests small scale domestic occupation. The presence of regionally imported fineware, glass and the reused column base suggest that the character of the settlement was not of the poorest character. The evidence for settlement features is slight and confined to the very edge of the river, consisting of an area of stone hardstanding, a post hole and a pit that may have formed part of a corn drier. In the other trenches finds were scarcer and completely absent from the most northerly trench (D). The ditch in Trench A may have formed a boundary to one side of the occupation area and the linear channel or gully in Trench B may have formed another.

The combined evidence of the bone and environmental reports suggests that a mixed farming economy was practised at Bleak Bridge although it is impossible to determine the relative importance and extent of the arable and grassland. The grassland was grazed by cattle and sheep and, although subject to seasonally high freshwater water table, showed no evidence of flooding. The salt marsh, which existed slightly further from the settlement, could also have been grazed. Pigs and domestic fowl were probably kept closer to the settlement and there does not appear to have been any significant woodland in the immediate vicinity. Arable farming was carried out with spelt, barley and possibly oats being grown in fields divided by wet ditches.

Context	28	28	2	20	31
Sample	4	5	1	2	3
Freshwater species					
Lymnaea truncatula	-	-	10	22	1
Lymnaea peregra	-	-	2	-	-
Anisus leucostoma	-	-	1	84	-
Terrestrial species					
Vertigo pygmaea	11	18	3	37	16
Pulilla muscorum	-	-	-	1	1
Vallonia costata	11	44	14	47	2
Vallonia excentrica	3	5	-	4	-
Vallonia sp.	-	-	-	50	6
Trichia hispida	2	1	-	11	2

Table 4. Bleak Bridge Mollusca

It is uncertain what environmental changes happened at Bleak Bridge towards the end of the Roman period when occupation ceased. There are no deep sequences of estuarine clay comparable to those known further inland above the Romano-British salterns, although the evidence from Trench C suggested that some flooding associated shallow channels may have occurred. It is uncertain if the thin sandy layer in that location was a product of erosion of a natural coastal barrier or deliberate deposition to create a better surface but the former is perhaps more likely.

The pottery from the upper layers at Bleak Bridge hints at activity locally in the 12th to 14th centuries and then later in the 18th to 19th centuries. There is no evidence of the Anglo-Saxon reclamation and settlement of the coastal areas known to the north (Rippon 1997 and 2006).

COMPARISON WITH OTHER SITES IN THE SEVERN ESTUARY WETLANDS

Fieldwalking and small excavations suggest that other Romano-British settlements are present nearby along the finger of hard geology that stretches intermittently from Pawlett to Highbridge (Rippon 1997). Settlement in comparable reclaimed coastal floodplain to that at Bleak Bridge is known around Brent Knoll, from there northwards to Brean Down and within the Axe valley (eg. Rippon 1997 and Grove 2003). This settlement seems to have begun as early as the 1st or 2nd centuries AD but there is little associated palaeoenvironmental analysis and most of the evidence is in the form of artefact scatters or poorly recorded minor excavations. The major site of Lakehouse Farm, east of Brent Knoll, was occupied in the mid 3rd to mid 4th centuries AD at the same time as other sites in that area (Rippon 1997 and 2006 73-4).

In the Axe valley extensive remains of a reclaimed landscape are visible as slight earthworks, representing fields, settlements, droveways and a possible canal (Grove 2003). Reclamation in the Axe valley has been dated chemostratigraphically to 130-221 AD (Haslett *et al* 1988). This date is supported by the limited artefactual evidence from the settlements in the area. Work to the south of Brean Down shows a

marginal saltmarsh/terrestrial environmental environment in the present inter-tidal area that was cut by a ditch indicating freshwater grassland environment seasonally subject to coastal flooding (Allen and Ritchie 2000). Initial unpublished results from recent fieldwork at Steart appear to support this pattern of coastal marsh colonisation and reclamation in the 2nd century AD (information from Wessex Archaeology).

In the North Somerset Levels natural sand dune defences may have protected the coast between Brean Down and Middlehope (Rippon 1997 and 2006). The discovery of a major Romano-British saltern site at Weston-super-Mare suggests that saltmarsh environments were present in the 1st century AD but had been replaced by a reclaimed freshwater landscape in the 2nd or 3rd century AD (Cox and Holbrooke 2010). On Banwell Moor and Kenn Moor there is extensive evidence for 3rd to 4th Romano-British rural settlement in the form of artefact scatters, relic field systems and excavated settlements and palaeoenvironmental evidence for a mixture of pasture and arable cultivation including a well preserved corn drier (Rippon 1996; 1997, 81-87 and Rippon 2006, 68-73). Occupation at Wemberham villa on the Congresbury Yeo (Reade 1885, 64-73) is from a similar period. On the Avonmouth Levels a mid 3rd to mid 4th century AD reclaimed landscape of grassland and arable is known from Farm Lane and Crooks Marsh (Masser *et al* 2005; Everton and Everton 1980 and Rippon 2006).

There is widespread evidence for a transgressive phase along the Somerset coast beginning in the Late Roman period. The most southerly evidence comes from the Huntspill Cut where a saltern site of 3rd to 4th century AD date was covered by silt deposited in an intertidal environment (Brunning and Farr-Cox 2006). The base of the silt has been dated by Optically Stimulated Luminescence to 110 AD +/- 290 (Oxl -1268) (Rhodes 2003).

In the Axe valley the date of the end of the reclamation and the return of marine influence is hard to determine. The only available estimate is a date between 207 AD and 411 AD (Haslett *et al* 2001). The villa at Lakehouse Farm continued in use into the 4th century AD (Rippon 1997) suggesting a similar date of transgression to that evidenced from the salterns south of Brent Knoll. The evidence from the North Somerset Levels, Avon Levels, Oldbury and Berkeley Levels and the inner estuary indicates extensive settlement along the coast until the mid 4th century AD (summarised in Rippon 1997, 84-97 and Rippon 2006, 73-81). Initial unpublished results from recent fieldwork at Steart seems to support this pattern that now appears to be consistent along much of the Severn Estuary.

Taken as a whole, there was a huge loss of productive agricultural land in the mid to late 4th century AD in these coastal areas that must have had a significant economic effect on the wider region. Such widespread change could reflect an inability of flood defences to cope with the gradually rising sea-level or natural changes in the dynamics of the coast and the dune systems. The low lying coastal areas along the Severn would also have been vulnerable to the raids of the Scotti from Ireland, recorded from the AD 350s onwards (Hamilton 1986). Such a threat was probably exacerbated by the removal of troops from Britain to support the revolt of Magentius (AD 350-3), the wars of Julian (AD 355-63) and the revolt of Magnus Maximus (AD 383-8). Ammianus Marcellinus recorded that the raids of the Picts, Attacotti and Scotti in the early AD 360s 'had reduced the provinces of Britain to the verge of ruin' and that the barbarians were roving at large and causing great destruction' (Ammianus Marcellinus Book 27:8 as translated by Hamilton 1986). It is not difficult to imagine that a failure to maintain flood defences in such circumstances could lead to catastrophic breaching and that the uncertainty of the period prevented the significant capital expenditure that would be required to reinstate them.

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