CHAPEL (TUMP) FARM, UNDY, CALDICOT LEVEL: AN INTERTIDAL SECONDARY MEDIEVAL SITE AND ITS IMPLICATIONS

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Charcoal, splintered bone and pristine pottery occur in a secondary context amidst salt-marsh deposits to the east-southeast of Chapel Farm within the (revised) bounds of a now-truncated infield with a medieval church. This paper will explore the mechanisms and timetable for the redeposition of the assemblage. The pottery dates from the twelfth and thirteenth centuries and would seem to record an activity/occupation site within the infield. Like the better-known assemblage from the site of the medieval port of Abergwaitha, c. 1 km to the southwest, it suggests that the seabank in this part of the Caldicot Level was set back and stabilised in the fourteenth/ fifteenth century.

INTRODUCTION

The purpose of this note is to describe a hitherto unrecorded archaeological site yielding medieval artefacts on the coast of the Caldicot Level and to suggest a mechanism for the creation of the findspot. A heavy medieval imprint, including stone-built village churches, is recognised in the surviving landscape features of the embanked Holocene estuarine alluvium of this part of the Gwent Levels (Rippon 1996a, 2000), but other kinds of material indication of medieval activity/ occupation are at present very few. The evidence from sites that are intertidal, such as the present one at Chapel (Tump) Farm, is of particular interest, as it bears on the interplay between human actions and natural forces in creating the archaeological record on the unstable shores of the Severn Estuary, perhaps the most dynamic system of this kind in Britain.

SETTING AND TAPHONOMY

Chapel Farm in Undy parish lies on the coast of the Caldicot Level about 12 km southwest of Chepstow (Figure 1A). A lane that ends in a track and public footpath links it and nearby Pennycloud (derivation ?'head of the [sea]bank') to Undy village on the dryland edge (Figure 1B). This route is truncated at Pennycloud by the modern seabank. Beside the lane lies Chapel Reen, but today this watercourse flows northwestward, with no direct outfall on the coast. Roughly 700 m to the southwest is Magor Pill, the modern outfall of Mill Reen, a major drain.

The archaeological site (British National Grid Reference ST 845853) lies among active salt marshes of complex morphostratigraphy (Figure 1B) that occur to seaward of the modern seawall and an older and more inland embankment (now site only), which was in part functional as late as 1946 (air photo. RAF CPE/UK/1885, frame 3054) but abandoned by 1971 (air photo. 39RAF3764, frame 0090). It is exposed as a flat-based lens of coarse sediment with unevenly dispersed charcoal, pottery and bone that extends for *c.* 40 m along the low cliff forming the seaward edge of the highest and most inland of the marshes. A section measured where the lens is thickest (Figure 1C) showed 0.25 m of unbottomed, pale brown silt, overlain by 0.28 m of coarse deposits, in turn succeeded by 0.22 m of pale brown, then brownish grey and finally grey silt up to the level of the marsh surface. The lens consists of bands of coarse sediment interlayered with pale brown silt. Typically, the former consist of a mixture of

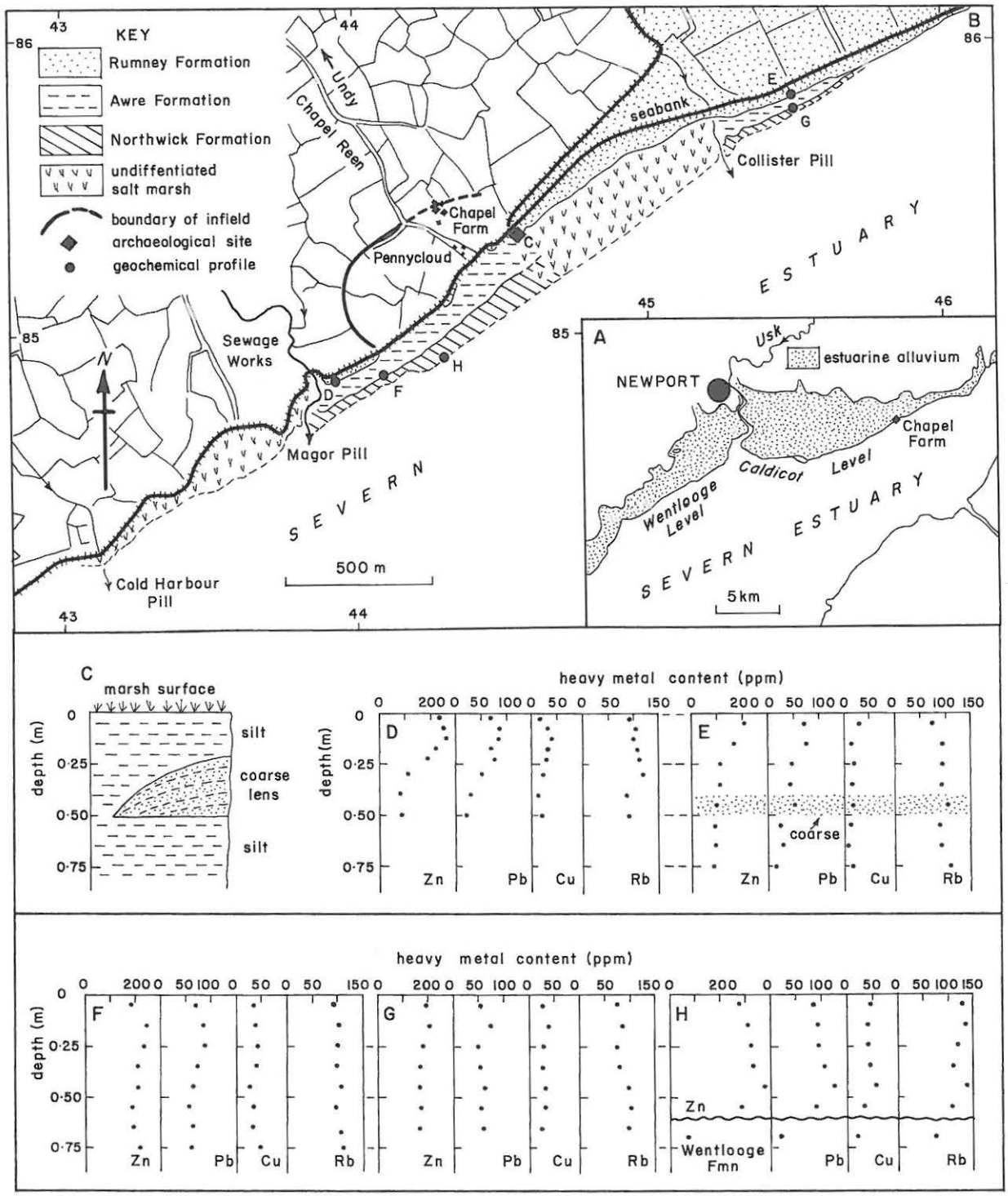

Figure 1: The archaeological site at Chapel Farm, Caldicot Level. A - Setting in the Gwent Levels. B - Chapel Farm and its neighbourhood, showing the divisions of the salt marsh, the archaeological site (profile C) and the location of geochemical profiless D-H in the salt-marsh deposits. C - Profile at the archaeological site. D-H - Geochemical profiles at the locations shown in B.

occasional rounded pebbles and small cobbles of stone, shells (*Macoma balthica*) and small lumps of silt set in an abundant coarse sandy matrix composed of millimetre-scale sphaerosiderite concretions eroded out of older salt-marsh silts, as described from the Wentlooge Level (Allen 1987a, 169), and variable amounts of quartz sand.

The high marsh and its lower-lying, younger associates can be assigned ages partly on the basis of geochemical profiles through the deposits, analysed using x-ray fluorescence for the content of heavy metals related to (1) anthropogenic contamination of the estuary (Zn, Pb, Cu) and (2) clay content (Rb, a grain-size proxy, inversely proportional to sediment particle size) (Allen and Rae, 1987; Allen, 1987b, 1988a; French 1996). Pale brown grading up into thin pale grey silts are seen below the high marsh at Magor Pill (Figure 1B, D). The grain size is fairly uniform but the heavy metals, at low levels at depth, peak conspicuously at *c.* 0.10 m below the marsh surface (Figure 1D). These features typify the Rumney Formation (Allen 1987a; Allen and Rae 1987), a morphostratigraphic unit which, on the Gwent Levels, began to form as a mudflat and then salt marsh not earlier than the late seventeenth century. Excellent exposures northeast of Collister Pill afford a second high-marsh profile (Figure 1B, E). Except for a layer of coarse material, it is similar in sediment colours, grain size and heavy-metal values to the profile from Magor Pill. This coarse layer, which has so far not yielded artefacts, consists of bands of concretion and quartz sand with abundant shells (*M. balthica*) and occasional stones interbedded with silt. It is positioned well below the mid twentieth-century heavy-metal peak but, allowing for changes in grain size, where the heavy metals are gradually increasing upward in relative abundance. Hence the coarse layer was introduced over a period probably in the mid-late nineteenth century, and this is likely to be the time when the archaeological layer at the same level was emplaced on the high marsh at Chapel Farm.

The artefacts described below were all collected from the lens as exposed along the cliff face. As the marshes play a significant part in defending the area against marine flooding, no attempt was made to excavate the deposit at Chapel Farm in order to increase assemblage size. The bones recovered are well preserved and, although invariably broken or splintered, conspicuously lack signs of abrasion. The pottery (Romano-British, medieval) is fragmentary and also essentially pristine. Sherds of the harder fabrics display sharp, unworn corners and edges, as well as in some cases delicate surface striae indicating wiping during manufacture. Very slight signs of rounding due to water-transport could be seen under the hand-lens on the more exposed edges of the softer sherds. Given the above evidence for the date of emplacement of the coarse layer, the archaeological materials clearly represent a transposed assemblage. Minimal transport is indicated by the general lack of evidence for wear and also by the charcoal present.

Seaward of the high marsh lie intermediate and low marshes (Figure 1B). Divided by a low cliff at Magor Pill, they gradually merge northeastward, and east of Chapel Farm up to Collister Pill cannot be separated morphologically. The intermediate marsh is underlain by grey silts with a high content of heavy metals, a weak maximum occurring *c.* 0.15-0.20 m below the ground surface (Figure 1B, F, G). This marsh was present in 1946 (RAF CPE/UK/1885, frame 3054) when it was gradually spreading northeastward over a lower-lying mudflat. On these various grounds the intermediate marsh is assigned to the Awre Formation, dating from not earlier than the latest nineteenth century (Allen and Rae 1987). One profile was taken from the low marsh (Figure 1B, H), where it rests erosively on green silts of the Wentlooge Formation. The heavy-metal values are high. The peak toward the base, and the upward decline combined with a decrease in grain size, suggests that the inception of the marsh at this site dates from early in the second half of the twentieth century (French 1996). The low marsh is therefore assigned to the Northwick Formation (Allen and Rae 1987).

POTTERY AND ANIMAL BONE

Nine pottery sherds (86.9 g) were collected over the exposed length of the coarse lens. The seven medieval sherds, all examined in thin-section, are divisible between four fabrics, as follows:

(1) three sherds of Penhow Ware (Wrathmell 1981; Papazian and Campbell 1992), of the late twelfth to the late thirteenth century, one from the lower rim and upper body of a substantial cooking pot, the interior of which had been wiped;

(2) a single sherd of Glamorgan (Vale) Ware, dating from the late twelfth into the fourteenth and possibly as late as the sixteenth century (Vyner 1982; Price and Newman 1985; Papazian and Campbell 1992; see also Clarke 2001), from the lower body and outer base of a substantial, partly wheel-shaped, sagging-bottomed cooking pot;

(3) a sherd from a globular cooking pot with grooved decoration of unknown source (? southeast Wales/Welsh Borders), but typical of medieval fabric 9 as recovered from Magor Pill further down the estuary coast (Allen 2004); and

(4) two body sherds of Malvern Chase Ware (Vince 1977; Hurst 1994) from different vessels probably of the thirteenth or fourteenth century.

The remaining two sherds are regarded as Romano-British and fall within the range of South Wales Greywares (Vyner and Evans 1978; Vyner and Allen 1988; Barnett *et al* 1990; Manning 1993), a heterogeneous group manufactured at a number of centres and recorded widely from the region, including the Gwent Levels (Allen 1998). They are from thin-walled (4.6, 6.1 mm), pale or mid grey wheel-thrown vessels tempered with plentiful, fine to medium grained quartz sand with, in one case, a little finely crystalline limestone. One sherd has two lines of rouletting.

The lens yielded over its length a total of 14 fragments of bone and teeth weighing 106.7 g in all and ranging widely in size. These were kindly examined by Rachel Scales. The bones, mainly broken or splintered, are from the head, upper body, lower body and feet of just two species, as follows:

(1) five of cattle (*Bos taurus*), including fragments from a radius (two articulating), a femur, a calcaneum and a second phalange, three of the pieces with signs of gnawing (one heavily) by carnivores;

(2) six of sheep (*Ovis aries*), one gnawed and two with cut marks, including a radius, a long bone, ribs and a third premolar tooth with enamel missing; and

(3) three indeterminate fragments, one heavily gnawed.

The characteristics listed above suggest that the bones are food residues and represent an inclusive use of butchered carcases.

DISCUSSION

The small archaeological assemblage preserved intertidally at Chapel Farm dates from the twelfth to the fourteenth century but, having been transposed into a salt-marsh deposit 500-700 years younger, is now in a secondary context. It can be understood in terms of similar contexts found at the site of the Romano-British settlement at Rumney Great Wharf (Allen and Fulford 1986; Fulford *et al* 1994), on the coast of the Wentlooge Level, where shore processes can be seen to continue to generate them.

The high salt-marsh of Rumney Great Wharf (Allen 1987a) is bounded to seaward by a bold, eroding cliff shaped into a series of embayments, the wider and shallower of which contain pocket beaches. To landward the marsh is bounded by a seabank in a set-back position (Allen and Fulford 1986; Allen 1987a, 1996). The cliff presents a complex stratigraphy (Allen 1987a, fig. 5). Greenish grey silts of the Wentlooge Formation, capped by the Wentlooge Palaeosol, are sharply overlain by pale brown grading up to grey silts of the Rumney Formation. At at least two horizons within the Rumney Formation there occur flat-based lenses of well-stratified sphaerosiderite concretion sand admixed with a considerable range of coarse debris.

At the site of the settlement, the pocket beach (Allen 1987a, pl. 3.2) is composed of concretion and quartz sand, together with pebbles and small cobbles and a wide variety of cultural debris, especially pottery, transposed from contexts of different kinds. The exposed primary contexts of the settlement (drains, pits, a well), with pristine pottery, are sealed by the Wentlooge

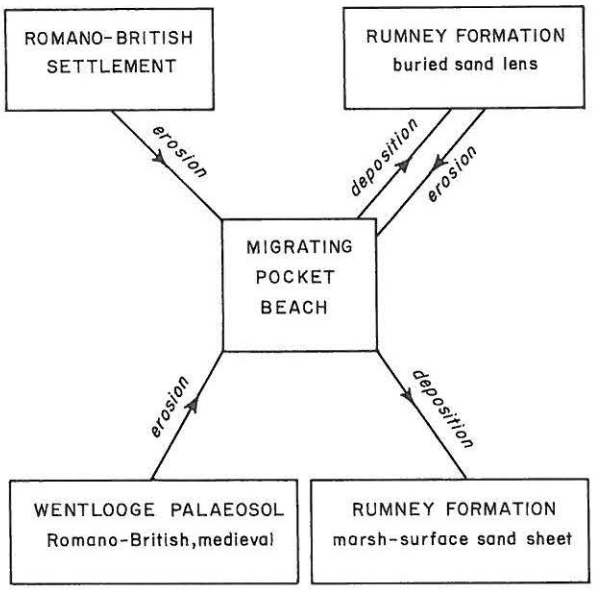

Figure 2: Schematic relationship between artefact-bearing deposits at the site of the Romano-British settlement on Rumney Great Wharf, Wentlooge Level. The secondary contexts are the pocket beach, buried sand lens and marsh-surface sand sheet

Palaeosol (Allen and Fulford 1986; Fulford *et al* 1994), and the cliff reveals in the Rumney Formation above an extensive sand lens also rich in cultural debris (Allen 1987a, 175-6, fig. 9c). The pottery held in the pocket beach is water-worn and chiefly Romano-British, but there is some worn medieval material (Allen and Fulford 1986; Allen 1996, 1998). Water-worn Romano-British and medieval pottery is also found in the sand lens enclosed by the Rumney Formation. Pristine medieval sherds have, however, been recovered along with Romano-British sherds from the topmost 0.15 m of the Wentlooge Palaeosol (Allen 1996, 75). From the head of the pocket beach there ranges inland across the marsh for some 25 m a thin sheet of sand containing worn Romano-British and medieval pottery, iron-making slag, furnace lining, and bones and teeth (Allen 1987a, pl. 3.2). This coarse material is being washed up at high tide by storm waves, and represents a further sand lens undergoing incorporation into the sequence of salt-marsh silts. In summary, Figure 2 depicts the various paths that have been taken by Romano-British and medieval sherds to their final resting places.

This model of the formation process may be extended to the site at Chapel Farm (Figure 3). An activity/occupation site apparently stood on an embanked marsh sheltered by a seabank that initially lay further to seaward (Figure 3A). Subsequent coastal erosion forced this structure to be set back further inland to roughly the present general line (Figure 1B), and created at the marsh edge a bold cliff that retreated inland at the same time as a new marsh began to accrete on the formerly embanked surface (Figure 3B, C). As erosion worked the cliff back through the sequence of silts, sphaerosiderite concretions, shells and other coarse debris began to accumulate in increasing amounts to form small beaches at the heads of embayments in the cliff (Figure 3C). Eventually, the activity/occupation site itself was overwhelmed, with the release of archaeological materials onto a pocket beach, sediment from which was beginning to be spread by storms onto the marsh surface to create an eventually buried sand sheet (Figure 3D). The final stage (Figure 3E) saw the stabilisation of the edge of the high marsh as the result of the accretion, beginning

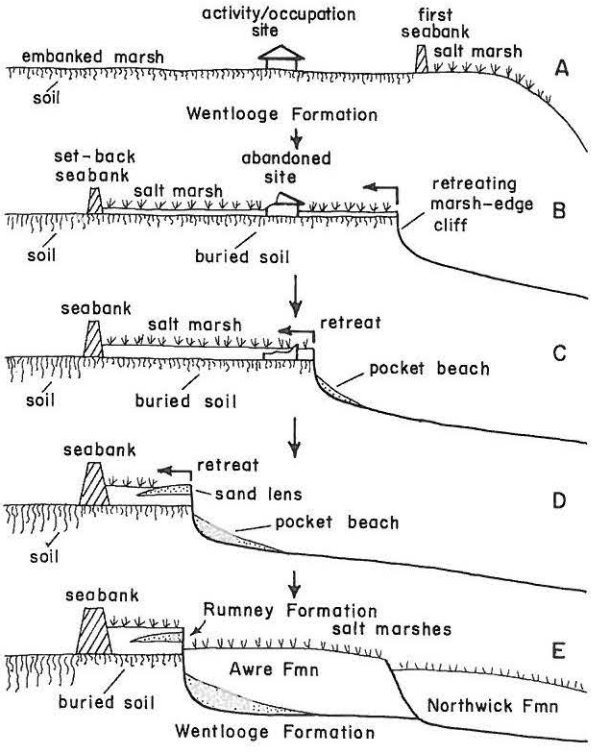

Figure 3: Dynamic model of the formation process that created the secondary medieval site at Chapel Farm. E = present day.

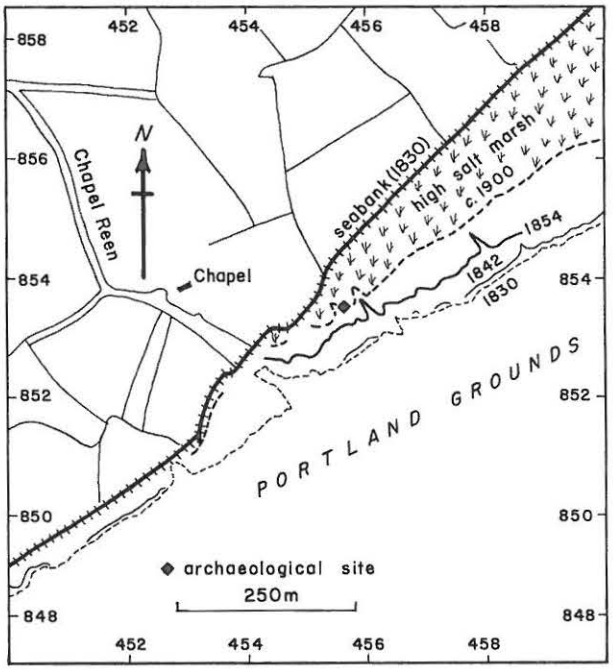

Figure 4: Coastal erosion at Chapel Farm during the nineteenth century, as demonstrated by mapped stages in the retreat of the (high) marsh-edge cliff between 1830 and c. 1900, when deposition of the Awre Formation probably began. The topography shown is that of 1830. Note the inlet pointing to an outfall for Chapel Reen. That the seabank is set-back is suggested by the small, triangular field south-southwest of the Chapel., which is evidently truncated The elbow and straight section of the seabank south of the Chapel may indicate that here set-back occurred in at least two stages.

around the turn of the nineteenth century, of new marshes (Awre Formation then Northwick Formation), which will have buried, perhaps to a depth of 1-2 m, any pocket beach developed by stage D.

This contention gains strength from two lines of evidence. First, the systematic positioning over the last millennium of fishweirs and traps (Allen and Rippon 1997; Nayling 1996, 1999) increasingly further inland across the foreshore south of Chapel Farm points to a prolonged underlying state of coastal retreat in this part of the Caldicot Level (Allen 2002a). Second, the high salt marsh, representing the early modern-modern Rumney Formation, has clearly been involved in the latest phase of that retreat. The present outer limit of the high marsh can be plausibly dated to *c.* 1900 (Figure 4), when the intermediate marsh (Awre Formation), grown to *c.* 125 m wide by 1946 (RAF CPE/UK/1825, frame 3054), is likely to have begun to accrete. In the second quarter of the nineteenth century, however, the marsh-edge was mapped *c.* 70 m further to seaward of the archaeological site (Chapel Reen seems to have had a coastal outfall) and *c.* 130 m away in the northeast of the area figured (Gwent Record Office: D1365.1 (1830); D917.5 (1842)). An overall average annual retreat-rate of *c.* 1-2 m is implied, similar to the rate over much the same period for the equivalent high marsh at Goldcliff Pill to the southwest (Allen 2002b). From a base of these insights, we can begin to examine the different relationships of the inferred medieval activity/occupation site at Chapel Farm to the documented medieval port of Abergwaitha on Magor Pill a kilometre to the southwest (Rippon 1996a; Allen and Rippon 1997).

The multiperiod site at Magor Pill has yielded an abundance of Romano-British and early modern pottery and other artefacts, as well as a substantial quantity and considerable variety of local and regional medieval wares, chiefly of the twelfth and thirteenth century (Allen and Rippon 1997; Allen 2004). Most of the pottery is transposed and obviously waterworn, but a small proportion of the medieval wares are sealed in apparently primary contexts in the silts that infill the abandoned channel of the pill to the southwest of the present outfall. Could the artefacts found near Chapel Farm have come from Magor Pill and, as the coast retreated, have drifted northeastward to their present general position? Although the same wares occur at both sites, this possibility may be rejected because of the freshness of the pottery and bone at Chapel Farm and their association with fragile and readily winnowed charcoal.

What then was the nature of the apparent activity/occupation site at Chapel Farm? Rippon (1996a, 42; 2000, fig. 4) interprets a semi-circular cluster of fields between Chapel Farm and Magor Pill as one of his numerous infields (Figure 1B), an early form of medieval settlement on the wetlands of the Severn Estuary. The medieval character of this infield, however, he regards as merely 'ill-understood' (Rippon 2000, 155). He does not map (Rippon 1996a, fig. 17) the isolated chapel depicted in 1830 (Gwent Record Office, D1365.1), now the site of Chapel Farm (Figure 1B), and again in 1842 (Gwent Record Office, D917.5), drawing the boundary of the infield to the southwest of the chapel. It seems clear that this chapel is medieval, for documentary sources allude to it through topographical names in 1541 (Sylvester 1958) and again in the early eighteenth century (Gwent Record Office, D668/25; National Library of Wales, Tredegar Collection MSS/169). Hence it is possible that the boundary of the infield lay to the northeast of the chapel rather than to the southwest. In possessing a medieval church, the infield at Chapel Farm resembles several other infields on the Severn Estuary Levels, of which Redwick on the Caldicot Level is an example and Puxton in Somerset is the best known (Rippon 1996b, 1997, 1998, 1999; Rippon *et al* 2001). Chapel Farm, however, is comparatively late, for the name first appears on maps in 1854 (Gwent Record Office, Q/Inc. Aw 12), the single reference to a Chapel *Tump* Farm at the location being of 1881 (Ordnance Survey, Monm., XXXVSW). Could the archaeological site therefore register the general position of part of the *medieval* settlement within an infield larger than hitherto envisaged?

Finally, what could have been the likely functional relationship between the possible infield settlement and medieval Abergwaitha? It is worth noting that Mill Reen with Magor Pill separates Undy from the parish of Magor to the west, the boundary being marked in places along the right bank and in others along the axis of the channel. The options would then seem to be: (1) medieval Abergwaitha was restricted to the west bank of the pill and was an activity/occupation site linked to the village of Magor and unrelated to any settlement in the infield; (2) the landing place lay on the east bank and was part of a larger settlement that had grown up in the infield, and (3) landing facilities existed on each bank, contributing to the economies of both parishes, as with the medieval ports of Wiveton and Cley on opposite sides of the Glaven estuary, north Norfolk. Critical evidence is at present lacking. According to Rippon (1996a, fig. 11), the coast at Magor Pill is linked to the main Roman east-west route by a road that strikes north-northwestward past Penhow Castle, giving its name to one of the wares at Chapel Farm. However, a direct route also links Chapel Farm with its hint of Roman activity to the dryland, and could have joined the Roman road at Magor village. With its powerful indications of trading in Romano-British, medieval and early modern times (Allen 2004), the inlet of Magor Pill is an archaeologically persistent site, but it need not be supposed that on this dynamic coast the landing place remained over time at a single specific location.

The pottery assemblage from Chapel Farm is too small to allow of close comparisons with other medieval assemblages from the Gwent Levels, but because these are at present so very few, it is important to consider it in relation to a regional picture. Material evidence for medieval activity is, of course, widespread in the form of stone-built village churches, some on the wetland but most along the wetland-dryland boundary (Fig. 5). Only two pottery assemblages, however, both substantial, have been recorded from the Wentlooge Level (Fig. 5), at Sluice House Farm (Allen 1996) and the site of the Romano-British settlement at Rumney Great Wharf (Allen and Fulford 1986; Fulford *et al* 1994; Allen 1996). The wares from the inland site emphasize the twelfth and thirteenth centuries but some range into the fifteenth or sixteenth (Glamorgan (Vale) Ware, Penhow Ware, 'Bristol' fabrics, Ham Green jugs/pitchers, Minety-type jugs/pitchers). Similar wares, with Malvern Chase Ware in addition, were recovered from the coastal site. The twelfth and thirteenth centuries are well represented, but there may be fourteenth and possibly later elements. The concentration of medieval with Romano-British finds at Rumney Great Wharf suggests that this site was archaeologically persistent. On the basis of abandoned or truncated fields (Allen and Fulford 1986; Allen 1987a, 1996), a documented and dated seabank still

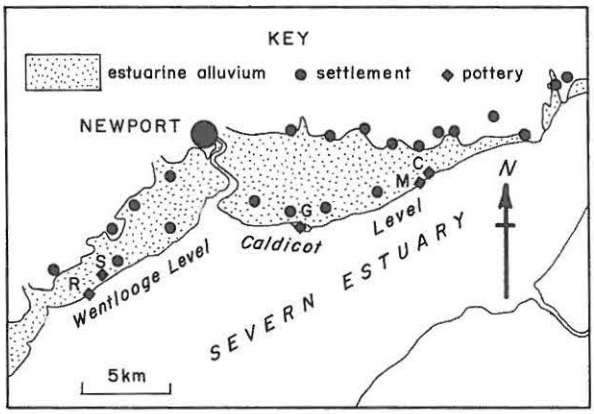

Figure 5: Medieval settlements with stone-built churches (wetland-edge and within the wetland) and pottery assemblages on the Wentlooge and Caldicot Levels. Key to pottery sites: C - Chapel Farm; G Gold Cliff; M - Magor Pill; R - Rumney Great Wharf; S - Sluice House Farm.

recognisable on the ground (Allen 1988b), and the pottery assemblage from the Romano-British site (Allen 1996), it would seem that the setting back of the seabank to its present line on the Wentlooge Level occurred some time between the fourteenth and the late sixteenth century (see also Rippon 1996a). The first embankment, it was argued (Allen and Fulford 1986; Fulford *et al* 1994), dated from the Roman period (for a different view, see Marvell 2004).

Equally sparse are medieval pottery assemblages on the Caldicot Level, having been reported only from Magor Pill and Gold Cliff (Figure 5). Those from Gold Cliff occur in three general contexts associated with a much-diminished, low bedrock 'island' surrounded by Holocene wetlands (Allen 2000). The island itself supported an alien Benedictine priory founded in *c.* 1113 (Williams 1970). Sherds including Glamorgan (Vale), Ham Green and 'Bristol' wares have come from a pond (Bell 1994, 141) and, along with ridge tiles, from trenches and spoil heaps (Bell pers. comm. 2004). From the embanked wetland just to the west Locock (1997, 61) reported 'local coarseware, Bristol wares and rooftile, from the late 12th century onward'. Glamorgan (Vale) and Minety-type wares have been found in spoil from the upgrading of the nearby seabank on the west side of Goldcliff Pill. Sherds erosively transposed on to the foreshore at Gold Cliff (Bell *et al.* 2000, 367) include a fine 'Bristol' cooking pot of the twelfth/thirteenth century. However, the most substantial medieval assemblage comes from various contexts, chiefly transposed, at Magor Pill on which stood Abergwaitha (Courtney 1986-87; Allen and Rippon 1997; Redknap 1998; Allen 2004). It is predominantly of the twelfth and thirteenth centuries, but the eleventh and early fourteenth are also represented, and there are wares with a longer date-range. Rippon (1996a, 98; 2000, fig. 4.5) proposes that along parts of the Caldicot Level a seabank that antedated the founding of Goldcliff Priory was at some time later in the medieval period set back to its present line, on the physical evidence of the truncation of field along the line of the present embankment, including the infield at Chapel Farm. It may now be suggested that set-back and stabilisation could have occurred as early as 1327, when Abergwaitha (in its first post-Roman form) is recorded as deserted (Rippon 1996a, 94), if not by 1424 when storms destroyed buildings at Goldcliff Priory (Williams 1970). The pottery assemblage from Chapel Farm, as also that from Magor Pill, supports the contention of a set-back on the Caldicot Level possibly as early as the fourteenth/fifteenth century.

The coastal processes that enforced set-back on the Wentlooge and Caldicot Levels are not limited to the Welsh part of the Severn Estuary Levels, but have affected the shores of these Levels generally and have operated widely in the British lowland coastal zone. Another part of their shaping of the archaeological record is in creating, as at Chapel Farm and Rumney Great Wharf, transposed assemblages of cultural material derived from sites overtaken by the sea.

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