A MEDIEVAL WATERSIDE SETTLEMENT OVERLOOKING SEVERN-ESTUARY ALLUVIUM, HOCK CLIFF, FRETHERNE AND SAUL, GLOUCESTERSHIRE

by J.R.L. Allen

Postgraduate Research Institute for Sedimentology, The University of Reading, PO Box 227, Whiteknights, Reading RG6 6AB, UK.

Episodic coastal erosion at Hock Cliff on the inner Severn Estuary has exposed deposits of occupation debris associated with a small, tripartite, embanked enclosure on the cliff top, set among, and partly overlaid by, classical ridge-and-furrow. The debris is preserved in a range of contexts, consisting of stone and ceramic building material, abundant pottery, fuels and food residues, and objects of stone and metal, including a probable fishing-line sinker. Dating chiefly from the 11th and 12th centuries, the pottery suggests that the site was abandoned in the 13th century. The wares are mainly from the Worcester and Gloucester areas but include products from the Malvern and Bristol industries and from the Vale of Glamorgan. That they were traded by water is strongly implied.

INTRODUCTION

For some 15 km to the south-west of Gloucester, the meandering channel of the inner Severn Estuary occupies the broad, alluviated floor of a less sinuous valley shallowly incised into Triassic and early Jurassic rocks (British Geological Survey 1972). The alluvium, partly of estuarine origin, is 5-10 m thick and composed of sands and gravels overlain by peats and silts (Prevost *et al* 1901; Allen 1990; Hewlett and Birnie 1996). It underlies extensive flat lands close to river level that are now almost totally embanked, settled and cultivated, and no longer in receipt of tidal mud (Allen 1990; Allen and Fulford 1990a, 1990b). Capping many of the low hills are detached outcrops of gravel and sand representing Pleistocene river terraces associated with the Severn and, its main tributary in the area, the Frome.

Gloucester dominated this bountiful area from late Saxon times (Finberg 1975; McWhirr 1981; Saville 1984; Herbert *et al* 1988), as it had done in the Roman period, but many lesser settlements of medieval date can also be identified archaeologically. The aim of this paper is to give from field and chiefly ceramic evidence a brief account of one of the outlying occupations - at Hock Cliff, in the parish of Fretherne and Saul - which overlooks a highly changeable part of the estuary. Indeed, it is essentially because of frequent, substantial coastal change in the vicinity of the site that much of the evidence for this short-lived settlement has come to notice.

THE SITE - CONTEXT AND CHARACTER

Hock Cliff is on the left bank of the river where, having emerged from the great bend at Arlingham, it makes a final swing around the Awre peninsula (Figure 1A, B, overleaf). Today it is a low eminence exposing grey shales and muddy limestones of the Lower Lias (Jurassic) overlain by terrace gravels and, at the settlement site, head-like sandy-gravelly clays with periglacial involutions. The settlement (Figures 1B, C, 2, overleaf) lies at the cliff-edge among classical ridge-and-furrow (Hall 1981, 1982, 1995) on ground that slopes gently eastward to a flask-shaped outcrop of estuarine alluvium which had also been cultivated, apparently after Roman embanking (Allen 1990). Inclosure of these open fields did not occur until the middle of the 19th century (Elrington 1972). It seems likely that in medieval times the settlement was separated from the river by a strip of salt marsh.

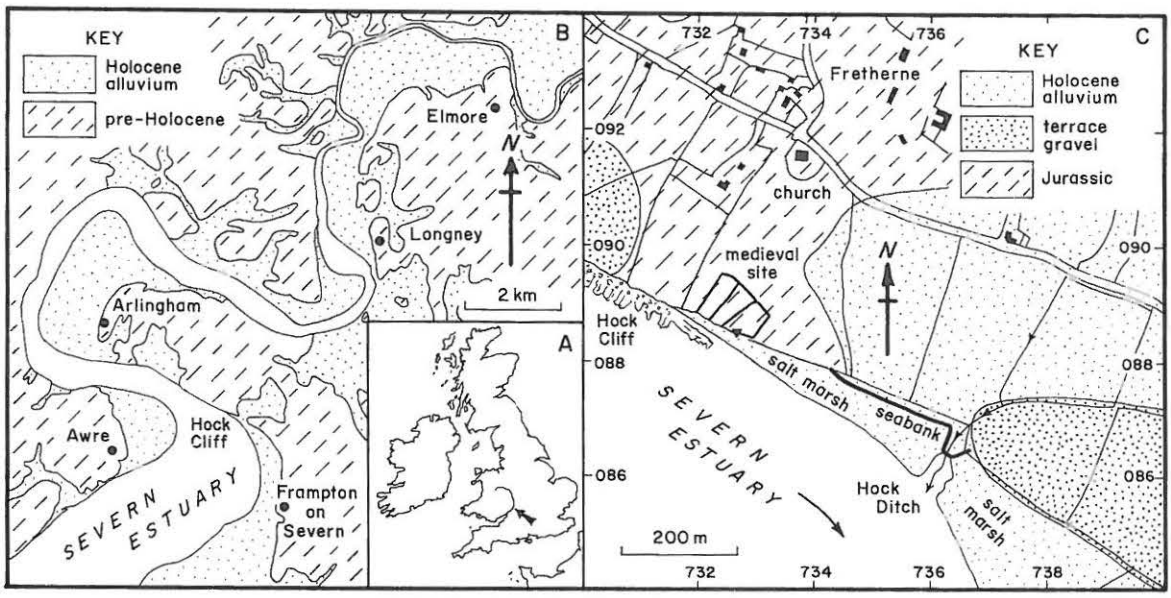

Figure 1: Hock Cliff medieval site. A, B, Setting in southwest Britain and in the inner Severn Estuary. C, The site in its immediate locality.

Figure 2: Hock Cliff medieval site (S). General context as shown in an air photograph (c. 500x375 m; north toward lower right) of December 1999 (National Monuments Record 18639/04). Copyright English Heritage.

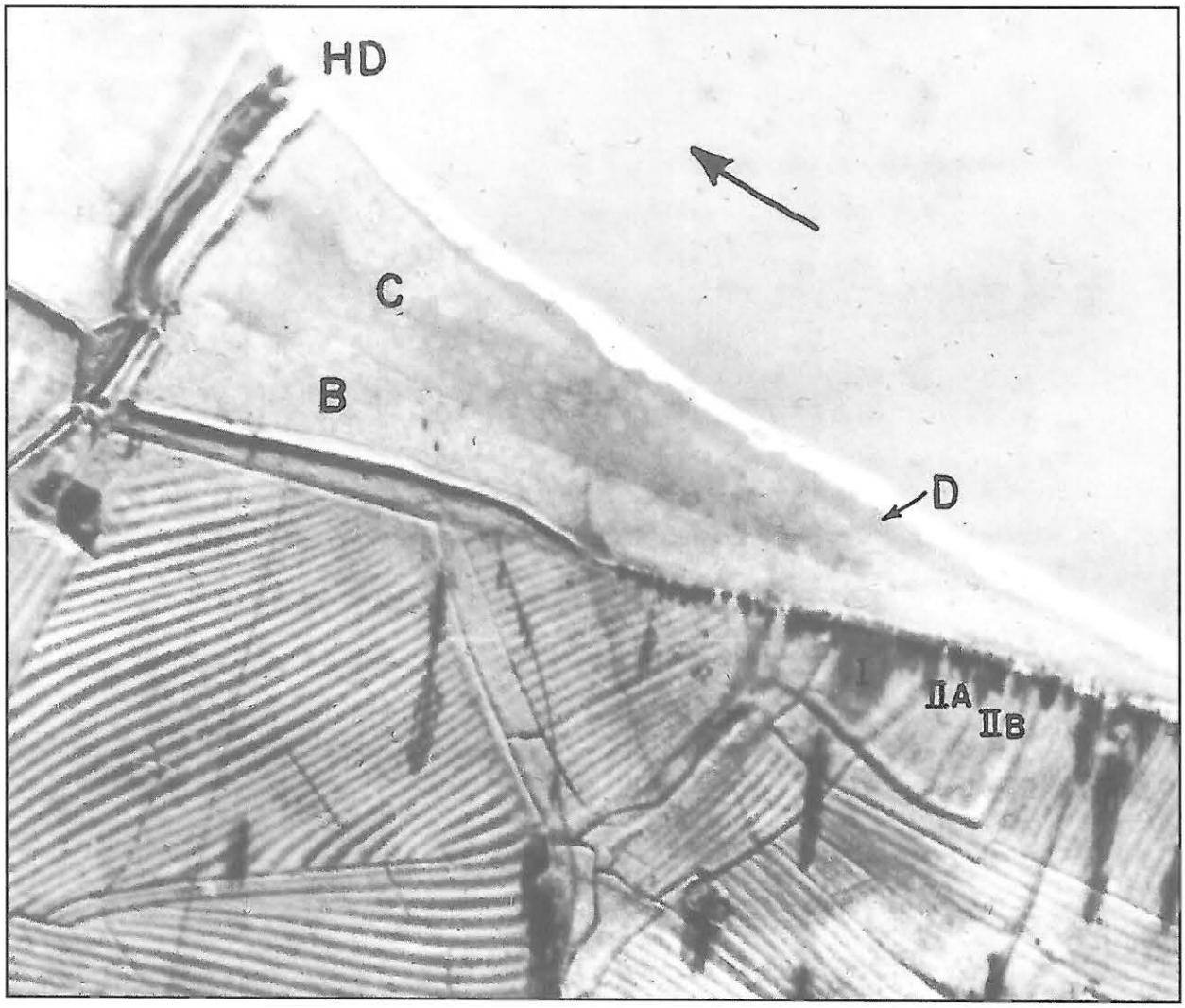

Figure 3: The marsh associated with Hock Ditch (HD) and the Hock Cliff medieval site (areas I, IIA, IIB). Air photograph (c. 500x400 m; north toward bottom) of December 1946 (Royal Air Force photograph CPE/UK 1913 no. 3144). B, C and D denote marsh terraces underlain by informal morphostratigraphic units assigned to the Rumney Formation. Crown copyright 1946/MOD.

The alluvial outcrop is crossed by an unnamed drain which enters the estuary as the small tidal creek or pill called Hock Ditch (Figure 1C). At its head is a sluice where a seabank, rebuilt and slightly repositioned in the 1990s, stretches across the neck of the outcrop (Figure 3). Landward of the original sluice the alluvium is seen in the (cleaned) drain to consist of 2-3 m of grey-green silts with a thin peat close to the base of the exposed section. These deposits may be attributed to the Wentlooge Formation, the chief Holocene lithostratigraphic unit of the Severn Estuary Levels (Allen and Rae 1987). On the salt marsh to seaward of the outfall, the alluvium appears to consist only of thick pale brown silts interbedded below with fine grained sands. These beds are assigned to the enlarged Rumney Formation of the last millennium (Allen 1987, 1997a), and are correlated to thick pale brown silts in the extensive alluvial outcrop to the south of Hock Ditch, as proved in a large borrow-pit at Frampton-on-Severn (Crooks 1999) and by augering in a pre-fourteenth century land-claim at Slimbridge (Allen 1986). Between Hock Ditch and Hock Cliff the Rumney Formation comprises four informal morphostratigraphic units, the three

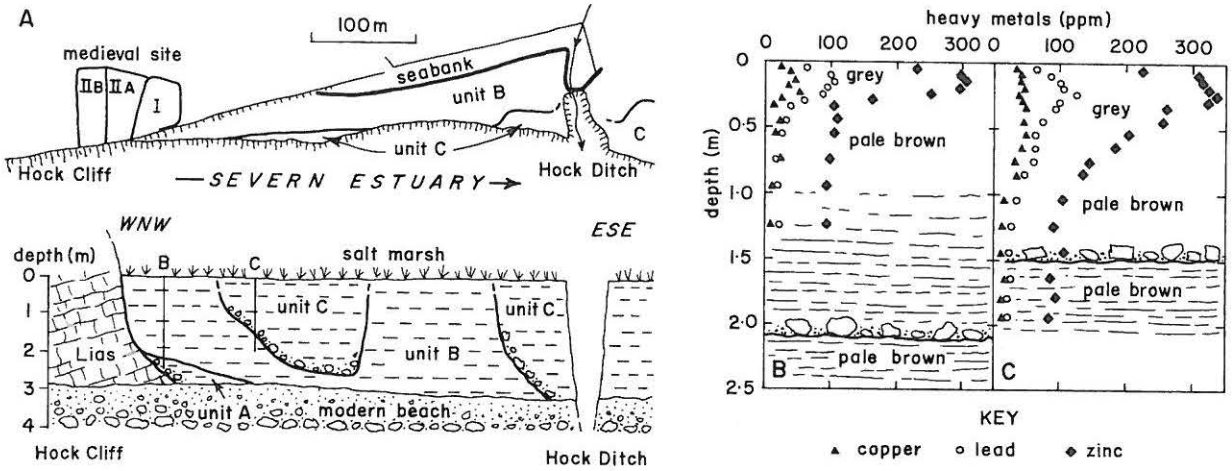

Figure 4: Hock Cliff medieval site. A, Stratigraphy (plan and profile) of the salt marsh and salt-marsh cliff between Hock Ditch and Hock Cliff, as surveyed in 1986-87. B, Profile of heavy-metal contaminants (copper, lead, zinc), unit B at the location marked in A. C, Profile of heavy-metal contaminants (copper, lead, zinc), unit C at the location marked in A.

youngest of which (Figure 3, B, C, D) had a clear geomorphological expression at the time (1946) of the RAF air photography.

Unit A, the oldest, was partly exposed on the marsh cliff that formed the seaward edge of the alluvial outcrop in 1986-7 (Figure 4A). Truncated and overlapped to the north-north-west by unit B, it appeared on the cliff as several decimetres of pale brown silt with a sandy, stony base (without artefacts) that thickened toward the east-south-east and sharply overlay gently dipping Liassic beds. Its outermost limit has not been conclusively identified on the marsh surface, but its inner margin may roughly coincide with the line of apparent seaward truncation of the lands - many are extremely short - in the furlongs between the pill and the slopes at the south-eastern part of the cliff (Fig. 3). Unit A could, therefore, be of later medieval inception.

Next to seaward lies unit B. Its outer limit is clearly evident in an air photograph of 1946 as a seaward-facing clifflet (Allen 1993) associated with a change of vegetation (Fig. 3). On the marsh cliff the unit exceeds more than 2 m in thickness (Fig. 4A), consisting of pale brown passing up into thin grey silts. Overlying the sharp base is 0.1-0.2 m of clayey sand with abundant pebbles derived from the river terrace gravels, lumps of limestone and shale, and transported Jurassic fossils (especially *Gryphaea*). Medieval artefacts are common among this coarse material (see below). All of Allen and Rae's (1987) heavy-metal based chemozones are represented (Figure 4B), the *c.* 1945 level of peak pollution occurring at about 0.15 m below the marsh surface and the *c.* 1845 datum, marking the onset of significant heavy-metal contamination, at a depth of only about 0.35 m. At 0.05 m or more, the sampling interval is too coarse to allow identification within the general metal maximum of the double or triple peaks (1936, 1951, 1958) recognised by French (1994) in his high-resolution studies. The inception of unit B would seem to date at the latest from the early 17th century, when it is recorded that a change in the estuarine regime allowed much new marsh to form in the area (Elrington 1972).

Unit C lies further out on the marsh as far as a second clifflet (Fig. 3) and is the youngest of the morphostratigraphic elements that were evident in 1986-7. Of variable thickness as traced on the marsh cliff (Fig. 4A), it ranged from the right bank of Hock Ditch to within 100 m of the foot of Hock Cliff. The unit consisted of up to 2.5 m of pale brown silts which passed up into much thicker grey silts than capped unit B. In terms of heavy-metal contaminants, measured by x-ray

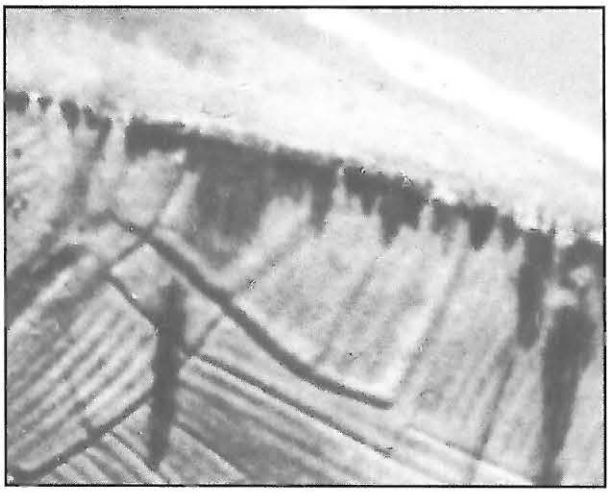

Figure 5: Detail of air photograph (north toward bottom) of December 1946 showing the Hock Cliff medieval site (Royal Air Force photograph CPE/UK 1913 no. 3144). North toward bottom. Note encroachment of later part of embanked enclosure on ridge-and-furrow, and ridge-and-furrow superimposed on the later enclosure and its northeastern bank. Crown Copyright 1946/MOD.

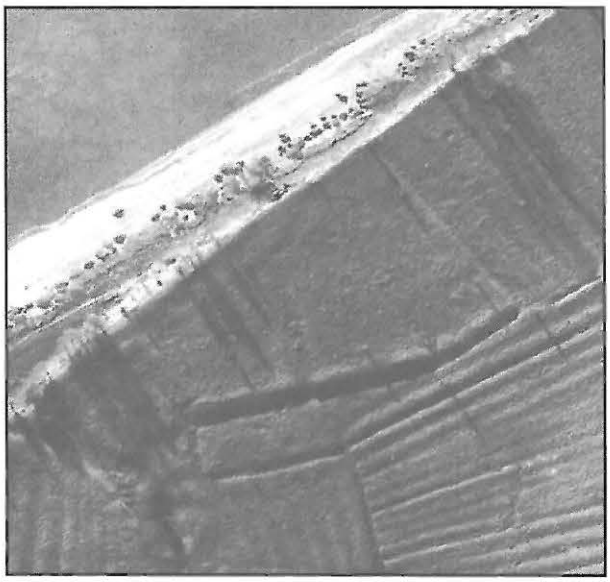

Figure 6: Detail of air photograph (north toward lower right) of December 1999 illustrating degradation at the Hock Cliff medieval site (National Monuments Record 18639/04). Copyright English Heritage.

fluorescence analysis, the *c.* 1845 horizon lay at a depth of about 1 m in the sampled profile and the *c.* 1945 level at about 0.35 m below the surface (Fig. 4C).

At the base of unit C appeared a jumble of angular to wave-rounded lumps and blocks of pale brown, commonly root-bound silt eroded from the marsh edge that limited the older units. Scattered among these blocks were pebbles and, especially on the right bank of Hock Ditch, a range of artefacts. These show that unit C dates from not earlier than the 18th century. They include a fragment of unrefined, quartz-tempered Staffordshire stoneware of the first quarter of the century (kindly identified by Dr Alan Vince), sherds including a pulley-type rim from a Buckley Ware pancheon of the late 17th-early 18th century (Barton 1956; Messham 1956; Amery and Davey 1979; Davey 1987), the base of an 18th-century glass flagon, and lumps of 'black metal' tap slag, with elevated levels (relative to primitive iron-making slags) of zinc (4281 ppm), copper (1945 ppm) and lead (1569 ppm) from the Forest of Dean, Bristol or, possibly, Swansea copper industries of the period (Hart 1971; Day 1973; Hughes 2000). The form of the slag, moulding large crucible-like containers, suggests that it came from waste dumps rather than discarded, cast blocks for building.

When the RAF photographs were taken, a narrow, fourth morphostratigraphic element, unit D, existed on the marsh seaward of the second clifflet (Fig. 3). This unit had been eroded away by the time of the 1986-7 survey and could not be examined. It may have roughly equated to Allen and Rae's (1987) Awre Formation, of late 19th-century inception, a unit widely represented in the Severn Estuary Levels.

The settlement under discussion has lain on the edge of Hock Cliff since unit A began to be deposited. In 1946 the cliff had been stable since the inception of unit B, and salt marshes lay between it and the estuary channel (Figure 5). By 1986-7, however, these protective marshes had disappeared and a narrow, pebbly beach existed at the foot of the cliff, which was once more eroding. These conditions persisted up to 1999 and beyond (Figure 6).

The settlement (NGR SO 732089) is a sub-rectangular, tripartite enclosure measuring approximately 105 m in overall length, 75 m across at the widest, north-western end, and 40 m wide on its narrowest, south-eastern side. It is defined by low banks with, along the north-eastern edge only, a conspicuous outer ditch. Because of cliff erosion, the bank along the cliff edge is incomplete. Judging from the relationships between banks, the earliest part (area I) occurs at the south-eastern end of the enclosure (Fig. 3). The larger, north-western part, divided by an internal bank into roughly equal halves (areas IIA, IIB), is surrounded by a bank that springs from the earlier feature where the latter curves through a right-angled bend. Although taken at the same time of year (December), the 1999 air photograph (Fig. 6) shows little detail within the enclosure, despite being technically superior to that of 1946 (Fig. 5), which unmistakably reveals that ridge-and-furrow was present within areas IIA and IIB and overlay part of the bank along the north-eastern edge. This bank and its ditch are in turn seen to overlie the first two lands in the furlong to the north-east. Adjoining the enclosure along part of the north-eastern side, opposite area I and part of area IIA, is a small, rectangular area without ridge-and-furrow.

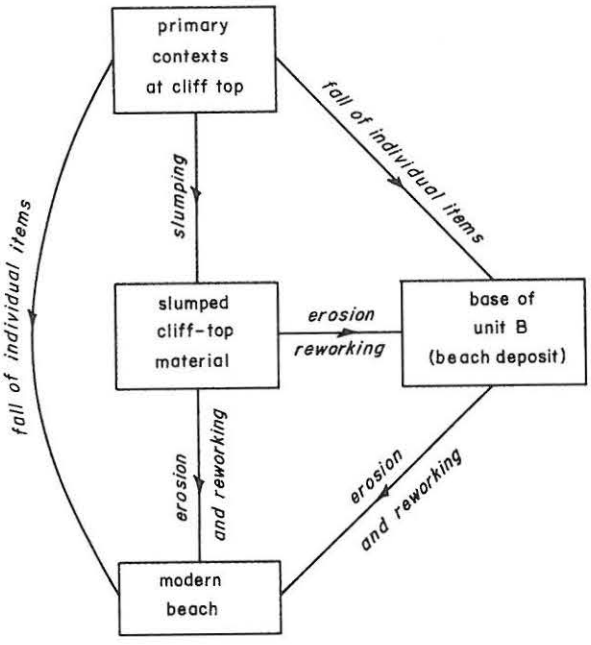

Figure 7: Flow diagram illustrating the process forming the archaeological record at Hock Cliff.

FORMATION PROCESSES

The prehistoric and medieval artefacts described below from Hock Cliff were assembled over a period of years from four distinct contexts: (1) primary deposits at cliff-top level, (2) the basal facies of unit B, (3) slumped masses of head-like sandy-gravelly clay and soil from the cliff-top that had descended to the upper part of the modern beach at the cliff-foot, and (4) the pebbly beach itself, of mobile sediment shifted by wave and tidal currents. Only the second and fourth contexts were evident in 1986-7 when the marsh cliff was examined. Within a few years, however, the marsh directly below the settlement had been eroded away, and the cliff itself came under sustained attack. Figure 7 illustrates the movement of artefacts through this series of contexts, of which unit B and the modern beach are clearly secondary. However, as far as the predominant, medieval artefacts are concerned, the four contexts yield the same kinds of material, allowing collections to be amalgamated. Units A and C have afforded no medieval or prehistoric artefacts.

The primary deposits at cliff-top level are a localised dump of medieval occupation debris lying in the soil on the seaward side of the enclosure bank (Figs 1, 6) and an inferred diffuse, light spread of prehistoric material. Parts of this dump from time to time slump to the upper beach at the foot of the cliff, where wave and tidal currents rework material and disperse it for about 50 m along the foreshore. Individual sherds and items of building material are also observed to fall from the cliff as repeated wetting and drying loosens the soil. The basal part of unit B, which also experiences wave-attack and reworking, represents an earlier beach, for it closely resembles the modern beach deposits.

From these contexts a total collection of 1160 medieval sherds (19.2 kg) has gradually been assembled, together with a little Romano-British pottery, and objects of flint, metal, brick and stone and also animal bones and fuels. The sherds have a moderate average weight (16.6 gm) but range considerably in size, from that of a postage stamp up to about one-third of a cooking pot base or rim. Sherds from the dump and slumped masses are pristine, but some from the

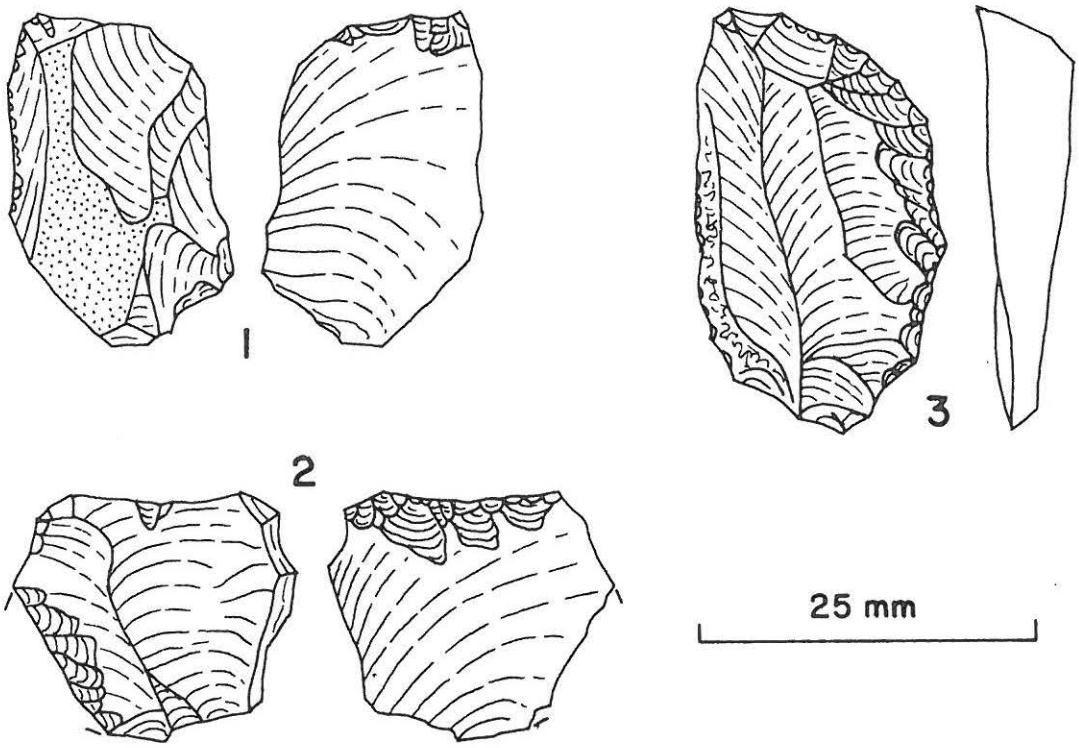

Figure 8: Possible Neolithic and Bronze Age flintwork from Hock Cliff.

beach and the base of unit B are distinctly worn. Losses through dispersal and damage on the beach have probably been negligible, however, for conjoining sherds proved common, allowing several vessels to be partly reconstructed.

PREHISTORIC PERIOD

One worked flint was found at the base of unit B and two more came from the beach. A translucent, honey-coloured flint like that from the Bronze Age site at Oldbury Flats (Allen 1998) was exploited for two of these items. One of these (Fig. 8.1) has a light retouch along one edge but is of uncertain function. The other is based on a very thin flake with a long snap-fracture along one side (Fig. 8.2), resembling items described and interpreted as transverse arrowheads by Robertson-Mackay (1987, fig, 63, F113-115), from a Neolithic site in the Thames valley (S. Allen, *pers. comm.* 2000). The third item (Fig. 8.3), best summarized as a side scraper, is a combination tool offering also a point and a blade. In contrast to the others, it was made from a grey, opaque, mottled flint.

A Neolithic date seems likely for the side scraper and possible arrowhead, but the other flake may be of the Bronze Age. They show no signs of wear and, therefore, probably came from the cliff-top. Flintwork was previously unknown at Hock Cliff, but Curtis (1998) has recorded, through field-walking, a wide scatter of Neolithic-Bronze Age on the Jurassic outcrops within a few kilometres to the west and north. Prehistoric activity/occupation sites may therefore be widespread on the Arlingham peninsula.

Five sherds of Romano-British pottery were recovered from the beach. They are small in size (av. wt. 5.1 gm), consistent with derivation from a long-cultivated soil, and are from at least two vessels of South-east Dorset Black-burnished Ware No. 1. One of these, represented by the only rim-sherd, is a jar of the late 3rd to mid 4th century (Gillam 1970, fig. 17.147; 1976, fig. 2.10-13). They probably also came from the cliff-top. Like the larger outcrop to the west of Arlingham village, with an activity/occupation site of the period, the embanking of the alluvium at Hock Ditch apparently dates to Roman times (Allen 1990).

MEDIEVAL POTTERY (TABLES 1, 2)

More than half of the assemblage consists of Sand and Limestone-tempered Ware (Gloucester Type Fabric 43) of the 11th to 12th century, considered to have been made in or not much to the north of Gloucester (Vince *in* Heighway 1983). A considerable range of unglazed, chiefly plain cooking pots and jars is present (Figure 9), many of the rims being infolded. Decoration is restricted to three out of the 88 vessels, which display shallow, oblique grooves on the lower part of the outer rim. The ware is well known at Norman Gloucester, from which parallels with numerous forms can be drawn (Vince *in* Heighway 1978; Vince *in* Heighway *et al* 1979; Vince *in* Heighway 1983; Heighway and Ireland *in* Heighway and Bryant 1999).

The contemporaneous calcareous pottery, Gloucester Early Medieval Ware (GTF 41B), is by comparison poorly represented at Hock Cliff. It occurs as a range of plain, unglazed cooking pots and jars (Fig. 10.23-28), a few with infolded, club-like rims, which find several parallels in Saxo-Norman Gloucester (Vince *in* Heighway *et al* 1979; Vince *in* Heighway 1983; Vince *in* Darvill 1988), where it is especially plentiful at the Golden Minster (Heighway and Ireland *in* Heighway and Bryant 1999), as well as in medieval Dublin (Vince 1988), to which it was exported. The pottery ranges into the early 13th century, somewhat later than Sand and Limestone-tempered Ware, and from its composition seems to have originated in the Gloucester area. There is no sign at Hock Cliff of the predecessor Gloucester Late Saxon Ware (GTF 41A), of the 10th and 11th centuries.

Malvern Chase Ware (GTF 40) is also comparatively sparse at Hock Cliff. It is represented by large, plain, unglazed cooking pots with rims varying from simple and everted to upright and commonly club-like and infolded (Fig. 10.29-36). Parallel ranges of forms are described from Gloucester (Vince *in* Heighway 1983), the general area to the north (Vince 1977), Worcester (Morris 1980), Pershore (Vince *in* Bond and Hunt 1977) and Hanley Castle (Hurst 1994), where the pottery was made. The date range is from the 11th to the 13th century.

Worcester-type Wares are the second most important ceramic category at Hock Cliff, although much subordinate to Sand and Limestone-tempered Ware. They are classed at Gloucester (Heighway 1983) under Type Fabrics 90/91 and at Worcester (Morris 1980) as Type Fabric 55 (cooking pots), of the 12th to 14th century and 59/60 (glazed pitchers), of the late 12th to 13th century. The single pitcher at Hock Cliff (Fig. 11.37), with a green lead glaze over white slip, resembles Worcester forms (Morris 1980, fig. 71 bottom left) and carries on the handle, in addition to stabbings, a rouletted diamond pattern just inward from each edge, a motif known at Worcester (eg Morris 1980, fig. 69). The remaining vessels are plain, unglazed cooking pots, jars and possibly other forms (Fig. 11.38-47). The rims vary widely, some being infolded in harmony with the regional style, and limited parallels can be drawn with assemblages described from Worcester (Morris 1980) and Droitwich (Hurst *in* Woodiwiss 1992), although these show many points of difference.

Minety-type Ware (GTF 44) from western and northern Wiltshire (Musty 1973; McCarthy 1974) is represented by jugs and pitchers (Fig. 12.48). A perhaps surprising find is the presence of glazed jugs/pitchers (Fig. 12.49-51) in the typical fabric of Glamorgan (Vale) Ware (Vyner 1982; Price and Newman 1985; Papazian and Campbell 1992). Bristol-derived (Barton 1963, 1988) Ham Green Ware (GTF 53) is very poorly represented at Hock Cliff, and only by jugs (Fig. 12.52). Other fabrics with a minor representation are Stamford Ware (GTF 51), Bath 'Fabric A' Ware (GTF 38), flint-tempered Wiltshire-Berkshire Ware (GTF 47D) and Micaceous Red Earthenware (GTF 54).

Two fabrics apparently not previously recorded occur at Hock Cliff. What is here called Goethite-tempered Ware is hard, pale to dark grey and with a locally oxidised exterior. The slightly micaceous, silty matrix includes a temper of common to abundant quartz sand (≤3 mm), rounded and polished granules of goethite iron-ore (≤4 mm), and occasional muddy limestone (≤5 mm) and fossil shell. Small jars and/or jugs appear to be the forms represented (Fig. 12.53). These wares could derive from either the Awre or Rodley peninsulas, across the estuary on the

	number (%)	Weight, gm (%)
Sand and Limestone-tempered Ware (TF 43, C11-12)	629 (54.2)	12413.3 (64.7)
Gloucester Early Medieval Ware (TF 41B, C11-EC13)	64 (5.5)	692.1 (3.6)
Malvern Chase Ware (TF 40, C11-13)	66 (5.7)	1121.9 (5.9)
Stamford Ware (TF 51, C11-EC13)	1 (0.1)	8.3 (tr)
Bath 'Fabric A' Ware (TF 48, LC11-EC13)	1 (0.1)	39.5 (0.2)
Worcester-type Ware glazed jug (TF 90, C12-13)	1 (0.1)	58.8 (0.3)
Worcester-type Ware cooking pots (TF 91, C12-14)	136 (11.7)	1423.1 (7.4)
Wiltshire-Berkshire Ware (TF 47D, C12-13)	5 (0.4)	76.7 (0.4)
Minety-type Ware (TF 44, C12-15)	11 (0.9)	277.8 (1.4)
Glamorgan (Vale) Ware (LC12-14/?16)	18 (1.6)	447.9 (2.3)
Ham Green Ware (TF 53, EC13)	6 (0.5)	71.8 (0.4)
Micaceous Red Earthenware (TF 54, LC13-15)	20 (1.7)	207.7 (1.1)
Goethite-tempered Ware Soft to hard, pale to dark grey with locally reddened surfaces, common to abundant quartz (≤3 mm), polished goethite (≤4 mm), occasional silty limestone (≤5 mm) and rare shell.	5 (0.4)	72.4 (0.4)
Buff Sandy Ware Hard, cream to pinkish buff, scattered to common poorly sorted and rounded quartz (≤2 mm) with occasional ore.	22 (1.9)	529.5 (2.8)
Unassigned sandy wares	175 (15.1)	1759.1 (9.2)
Totals	1160 (99.9)	19199.9 (100.0)

Table 1: Hock Cliff, medieval pottery by sherd number and weight (percentages in brackets).

	minimum vessel number	sherds per vessel
Sand and limestone-tempered Ware	88	14.0
Gloucester Early Medieval Ware	9	7.1
Malvern Chase Ware	12	4.6
Stamford Ware	1	1.0
Bath 'Fabric A' Ware	1	1.0
Worcester-type Ware jugs	1	1.0
Worcester-type Ware cooking pots	11	8.1
Wiltshire-Berkshire Ware	1	5.0
Minety-type Ware	1	11.0
Glamorgan (Vale) Ware	3	6.0
Ham Green Ware	1	6.0
Micaceous Red Earthenware	2	10.0
Goethite-tempered Ware	1	5.0
Buff Sandy Ware	2	11.0
Total vessels	**134**	

Table 2: Hock Cliff, medieval pottery by minimum vessel numbers and sherds per vessel (wares represented by single sherd are included for completeness).

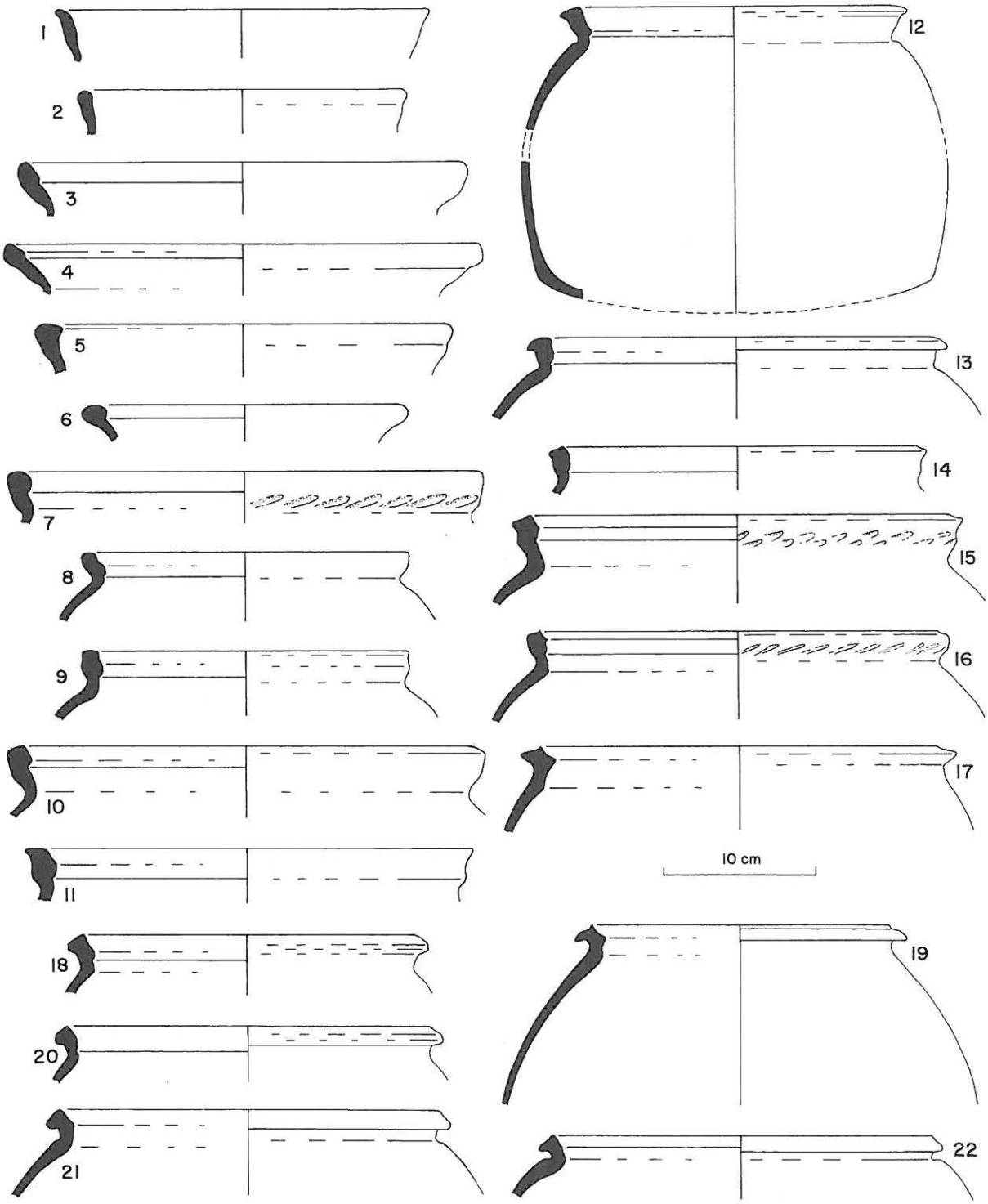

Figure 9: Medieval pottery from Hock Cliff. 1-22, Sand and Limestone-tempered Ware.

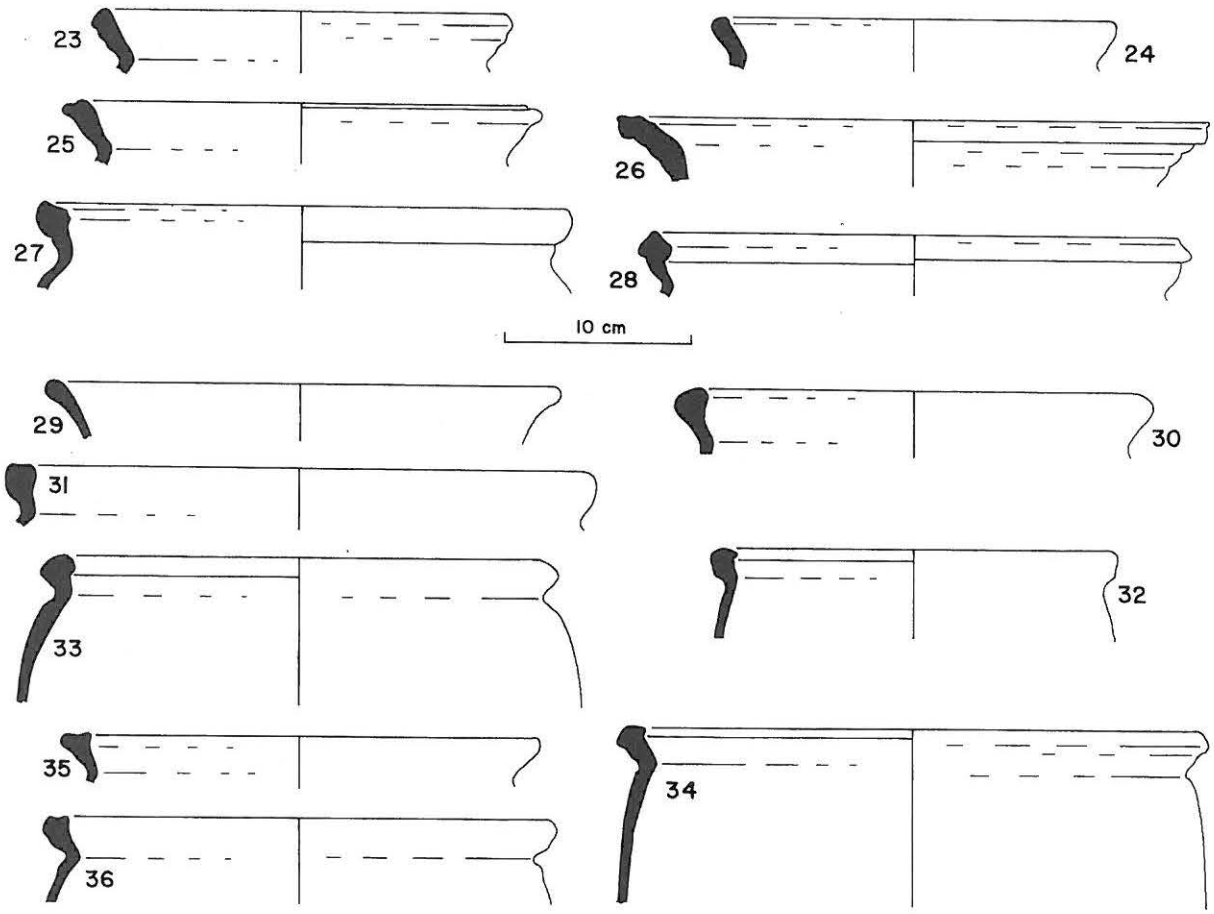

Figure 10: Medieval pottery from Hock Cliff. 23-28, Gloucester Early Medieval Ware. 29-36, Malvern Chase Ware.

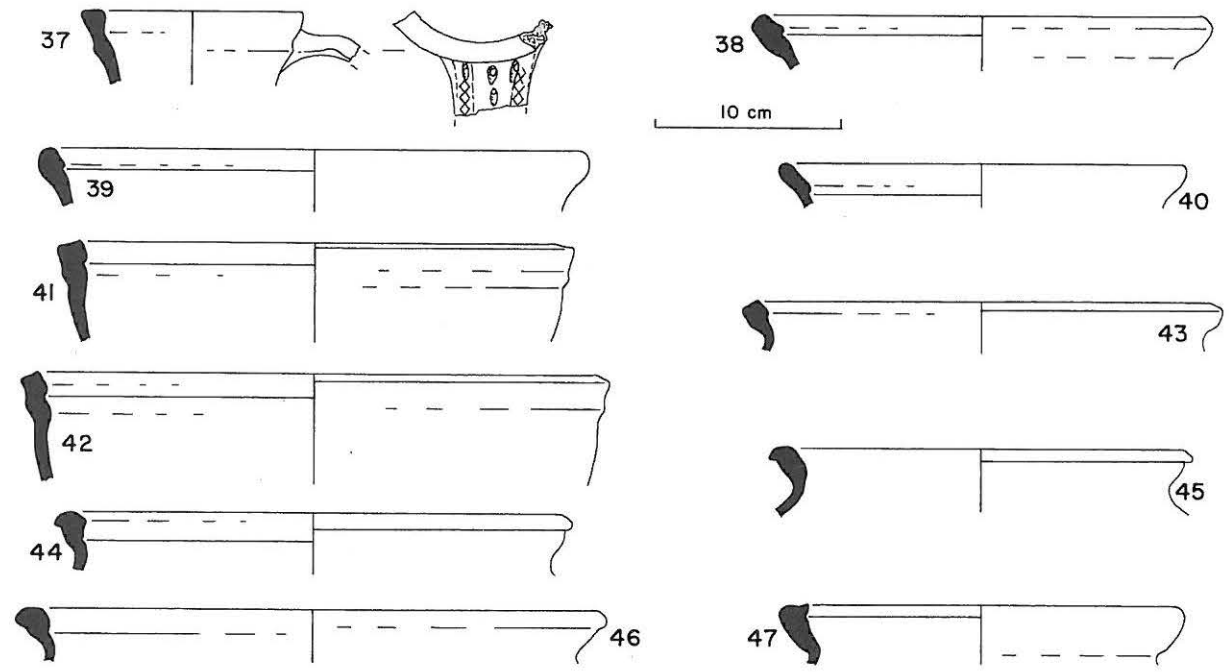

Figure 11: Medieval pottery from Hock Cliff. 37-47, Worcester-type Wares.

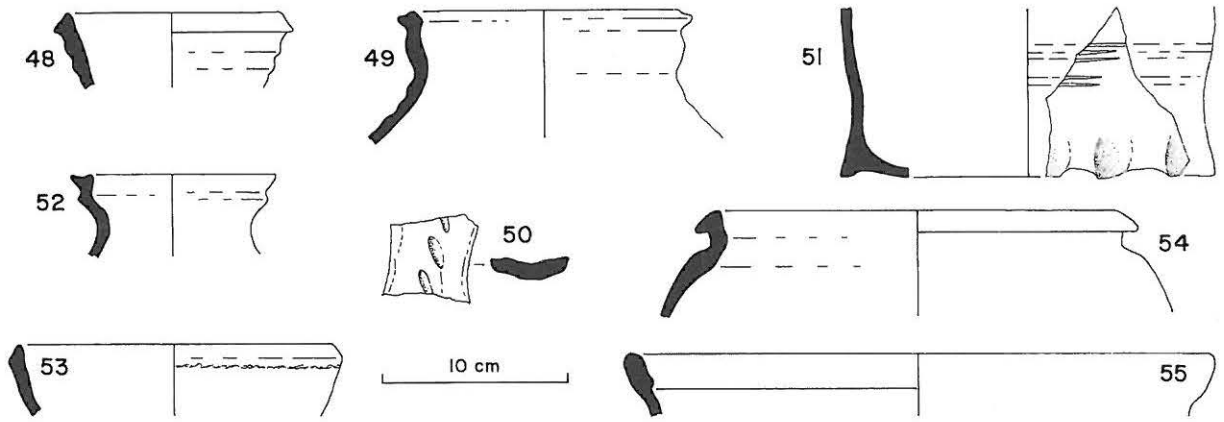

Figure 12: Medieval pottery from Hock Cliff. 48, Minety-type Ware. 49-51, Glamorgan (Vale) Ware. 52, Ham Green Ware. 53, Goethite-tempered Ware. 54, 55, Buff Sandy Ware.

north-eastern margins of the Forest of Dean, where streams accessing iron ore-bearing, Carboniferous strata have deposited alluvium adjoining outcrops of early Jurassic clays and limestones. A date very early in the range of the assemblage as a whole is suggested by the simple form of the rim. The other fabric, Buff Sandy Ware, is hard and cream to pinkish buff in colour, the silty matrix being tempered with common poorly sorted and rounded quartz sand (≤2 mm) and very occasional ore. Cooking pots and jars are suggested to be present (Fig. 12.54, 55). Their source is not known, but the infolded rim on one of the vessels suggests a provenance within the region and a date similar to that of the wares chiefly present.

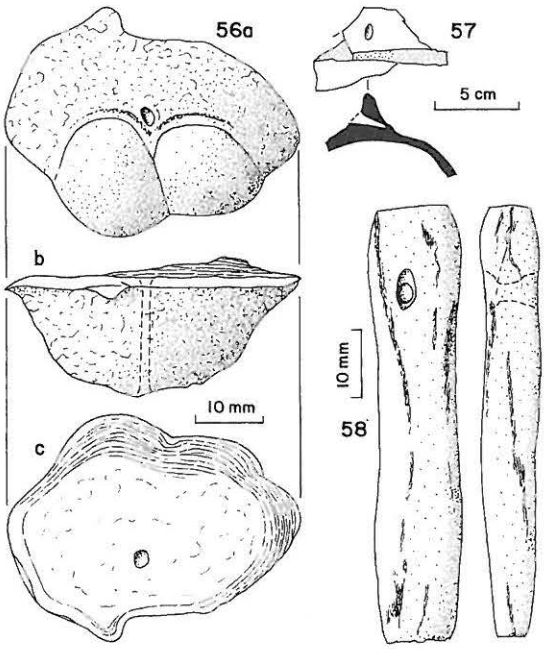

Figure 13: Other medieval objects from Hock Cliff. 56, Lead sinker for a fishing line. 57, Roof tile, part of crest. 58, Fashioned hone of mica-quartz schist.

OTHER MEDIEVAL FINDS

Because of their association with medieval pottery in the dump, the slumped material and the basal deposits of unit B, a range of other finds are assigned to the medieval period. They are objects of metal, brick and stone, and include animal bones and fuels.

Five metal objects were encountered, with a total weight of 335.8 gm. Three of these (116.3 gm) are of chilled lead driblets piled into irregular masses. The fourth is part of a thin plate of lead (125.9 gm) made by casting the metal into a uniformly shallow depression shaped on a coarsely granular surface. The fifth object (93.6 gm) is hemispheroidal in shape. The upper surface (Fig. 13.56c), with a distinct convex meniscus around the edge, is level but carries a series of fine, concentric ridges suggesting the chilling of the metal at an oxidized upper surface. The lower surface (Fig. 13.56b) is smooth and rounded, but carries two bold ridges that extend

downward from the upper surface almost to the pole. These rounded ridges resemble in size and shape the fingers of a hand, and each carries at the lower end a faint, curved ridge and hollow suggestive of the impression of a finger nail where it overhangs the flesh at the fingertip (Fig. 13.56a). The object is pierced between the upper surface and the pole by a narrow, off-centre, roughly cylindrical hole. It seems to have been made by casting lead into a mould shaped by the fingers in plastic clay, into which a roll of dried clay or smoothed twig had been inserted upright. Although this object in general form is consistent with either a loom-weight or spindle whorl, its mass seems to rule out both possibilities. The mass is, however, similar to that of sinkers used by line-fishermen in the estuary today, and it seems likely that this was the purpose for which this probably home-made object was intended. It resembles other medieval lead objects interpreted as line-sinkers (Steane and Foreman 1988, fig. 9.6, 7), as well as items of a similar appearance from Romano-British sites in the Severn Estuary area (eg Rippon 2000, fig. 25.3).

The brick objects are divided between bricks and tiles. There are eight pieces of hand-made brick 33-35 mm thick. The fabric is moderately hard, reddish orange and abundantly micaceous, with common poorly rounded and sorted quartz (≤1 mm) and clay relicts accompanied by rare sandstone. Two of the pieces are smoke-blackened on one side, as if from a hearth. There is a strong resemblance to the D group of tile fabrics at Chepstow (Vince *in* Shoesmith 1991). In the same fabric is a fragment from a ridge tile with an applied, knife-cut crest almost pierced through from one side by a single, inclined hole (Fig. 13.57). It carries a thin colourless to slightly greenish glaze plentifully speckled greenish-black. The other piece of tile, measuring 22 mm in thickness, is in a hard, red, silty micaceous fabric with scattered clay relicts but no quartz sand.

Three substantial lumps from flags of pinkish brown, fine- to medium-grained sandstone were found, all smoke-blackened on one side. The rock compares closely with the Brownstones (Lower Old Red Sandstone, Devonian) outcropping down the eastern side of the Forest of Dean on the opposite bank of the estuary (Trotter 1942). Like the brick, these lumps may also be from a hearth.

Animal bones and various fuels were present in each of the four contexts. The 22 bones and teeth are poorly preserved, but most can be assigned to cattle, sheep, pig and a large bird. They appear to represent food residues, for many show butchery/knife marks, and the long bones in particular have been splintered. There was a single oyster shell (*Ostrea edulis*). Charcoal (including burnt wood) is the dominant fuel at the site but a scattering of coal is also present. The coal and charcoal/burnt wood on the beach and the base of unit B need not have come from the dump, however, but there can be little doubt that what is present in the latter was deliberately introduced to the site for fuel.

From slumped material on the beach a smooth, fashioned hone was recovered (Fig. 13.58). It measures 14 mm in greatest width, 10 mm in greatest thickness and 65 mm in length, and near one end had been pierced from both sides. The end carrying the piercement had been smoothed, in contrast to the other end, which was rough and may possibly have been broken in use. The hone is of a mid grey, very fine grained, quartz-mica schist with a very strong lineation and occasional ragged to diffuse veinlets of quartz. It compares in composition, size and shape with hones of Eidsborg schist (Norwegian Ragstone), as described from medieval Winchester, where they occur from the 11th century but were commonest from the 13th (Ellis and Moore *in* Biddle 1990). It has been proposed that hones of this size are most likely to have been used for sharpening small blades in the home, workshop or field. The piercement suggests that they were intended to be worn round the neck when not in use.

DISCUSSION

The character and function of the site at Hock Cliff will not become clear until a geophysical survey followed by excavation becomes possible, but from the evidence given above, a number of preliminary conclusions can be suggested. Firstly, the discovery of fire-blackened stones and brick and a roof tile (Fig. 13.57), combined with the character of the pottery (Tables 1, 2) and the occurrence of fuels and knife-marked animal

bones, points to the presence of at least one building that served as a dwelling. Secondly, the pottery recovered emphasizes activity in the 11th and 12th centuries, with some continuation into the 13th (Table 1). Thirdly, the earthwork evidence suggests that the settlement experienced a certain amount of change during its period of activity (Figs. 2-5). Area I, which the dump of occupation debris adjoins, seems to be the earliest part of the site, and may be contemporaneous with, or even antedate, the establishment of the strip fields on the neighbouring slopes and embanked alluvial outcrop. Area II to the north-west was apparently added after ridge-and-furrow had become well established. Subsequently, this part of the site seems to have been abandoned and then re-incorporated into the arable during the life of the open fields. There is evidence at nearby Arlingham (Allen 1990) and Frocester (Price 2000) for some reorganisation of the medieval strip fields, which at Frocester can be dated by excavation and pottery to the 13th century.

There is so far little to suggest how people occupying the settlement at Hock Cliff made a living, but the discovery of what appears to be a lead sinker (Fig. 13.56) suggests that fishing in the estuary contributed to the economy. Indeed, given the waterside setting, it would be unsurprising if fishing proved to have been an important means of livelihood, for medieval fisheries are recorded from the northeastern side of the Arlingham peninsula (Elrington 1972). At the time the settlement was active, it seems likely that a strip of marsh separated it from the estuary. This is hinted at partly by the complex morphostratigraphy of the marsh to the southeast of the site (Figs 3, 4A) and, more especially, by the disposition of an early seabank associated with ridge-and-furrow on the alluvium of the Awre peninsula on the opposite bank (Allen and Rae 1987, pl. 2.1; Allen and Fulford 1990a, fig. 8), suggesting that the estuary lay some distance to the southwest of its present line. Fishtraps could have been placed along the edge of the strip of marsh and in creeks that entered it, where boats from which lines or nets were deployed could also have been moored.

As a waterside site lying only four kilometres from the line of the main overland route, of Roman origin, leading to the south-west, the settlement at Hock Cliff was well placed for trade and exchange with Gloucester by either water or overland. The pottery wares consumed at the site (Table 1), largely conforming to the distributions mapped by Vince (1981), are much the same as those recorded from the alluvium upriver at Elmore (Allen 1997b), from Frocester (Vince *in* Price 2000) near the Frome valley a few kilometres to the east of the land route, and at alluvial sites downriver in the middle estuary at Oldbury and Hill (Allen 1997b). Not unexpectedly, most of the pottery at Hock Cliff - the Sand and Limestone-tempered Ware and Gloucester Early Medieval Ware (combined total 59.7 no. %) - was manufactured in or near Gloucester (Fig. 14A, overleaf). Gloucester Early Medieval Ware seems to have been especially vigorously traded by water, for it appears not only in some abundance at the mid-estuary sites mentioned, but is plentiful as far afield as Dublin (Vince 1988). Manufactured near Bristol, Ham Green Ware also reached Ireland in some abundance (Barton 1988).

A noticeable proportion of the pottery at Hock Cliff (17.5%) comes, however, from 25-40 km upriver, originating in the Worcester area (Worcester-type Wares) and at Hanley Castle (Malvern Chase Ware). It was probably brought by water to Gloucester and marketed in various ways from there, but could have been traded from boats landing at or near Hock Cliff itself. The few ceramics from sources downriver came from the kilns at Ham Green, on the Somerset Avon below Bristol, and from the Vale of Glamorgan. Carriage by water is again likely. The Glamorgan pottery, for example, could have arrived on vessels returning from Ireland to Gloucester. A little pottery reached Hock Cliff from sources east of the Cotswold escarpment, but the routes taken are uncertain. Minety-type Wares manufactured at Lacock may have travelled down the Avon to Bristol for marketing, whereas wares of this kind made at Minety could have been taken either overland to Gloucester or reached the estuary by way of the Frome valley. Wiltshire-Berkshire Ware could have reached Hock Cliff by a variety of largely overland routes. Local cross-river traffic is suggested by the presence at Hock Cliff of Goethite-tempered Ware, a distinctive product which on compositional grounds is likely to have come from north-east of the Forest of Dean.

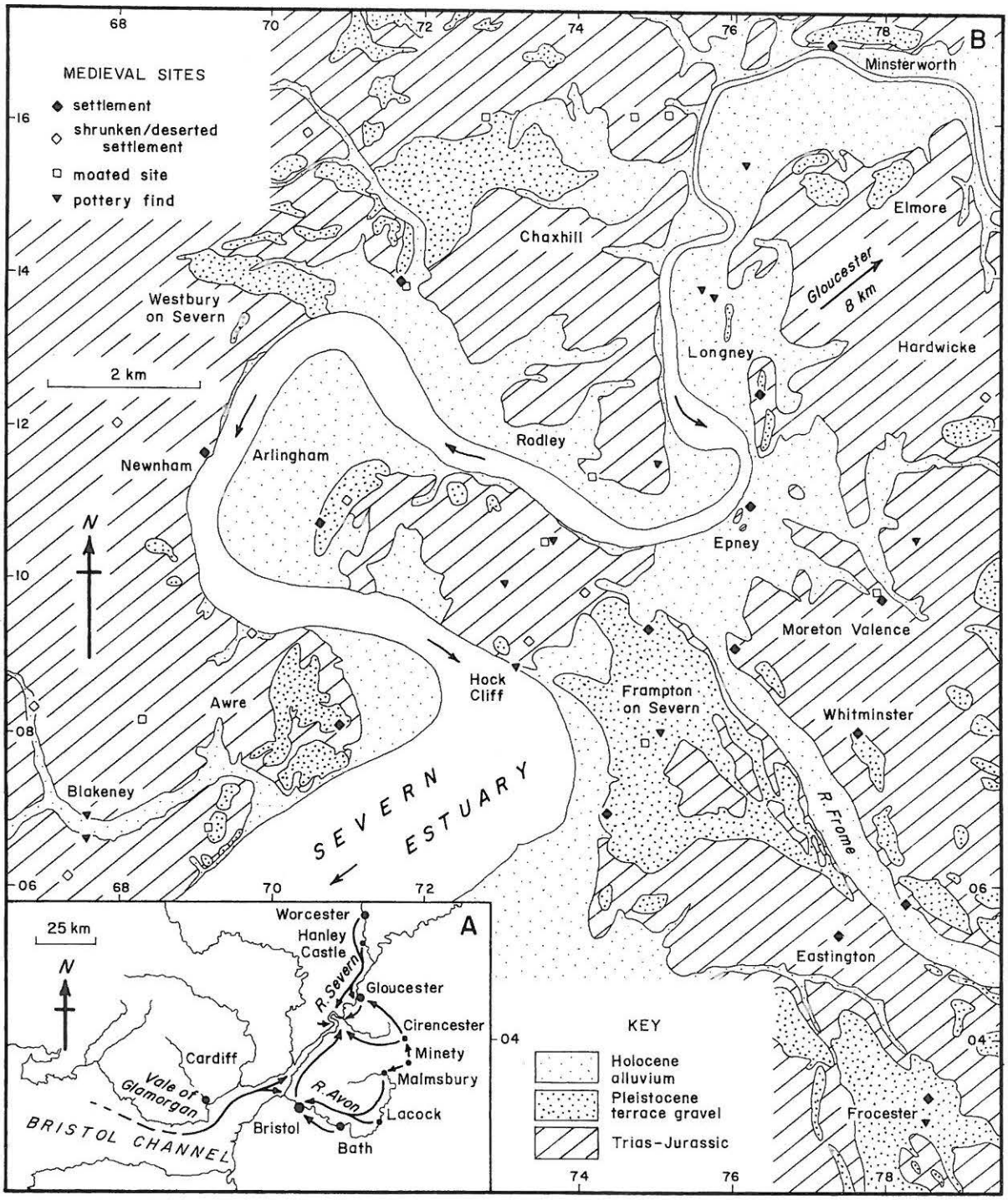

Figure 14: Hock Cliff medieval site. A, Provenance of the pottery and the conjectural routes by which it reached Hock Cliff. B, Medieval landscape of the district surrounding Hock Cliff.

By late medieval times the site at Hock Cliff lay within a fairly crowded landscape (Fig. 14B) in which some settlements, like Hock Cliff itself, had been either diminished or abandoned (Aston 1985; Lewis *et al* 1996) but others had persisted and been enlarged or been recently created as a focus of population (Aston 1985; Lewis *et al* 1996). Evidence of Saxon activities - at Gloucester (Herbert *et al* 1988; Heighway and Bryant 1999), Elmore (Allen and Fulford 1990b) and Frocester-Leonard Stanley (Herbert 1972a, 1972b; Price 2000) - is sparse in the area, and many settlements may have arisen only at the time of the Norman Conquest.

CONCLUSIONS

Coastal erosion on the southwestern side of the Arlingham peninsula in the inner Severn Estuary has brought to light evidence of a small medieval waterside settlement about which the following can be said.

(1) The site is a subrectangular, embanked and ditched enclosure and lies today at the edge of a low, eroding cliff of Lias rocks overlooking the estuary.

(2) Of the two stages in the development of the enclosure, the first antedated or was contemporaneous with the creation of strip fields in the area. The second part of the enclosure appears to have encroached on ridge-and-furrow, and was itself eventually incorporated into these fields. In the past, a variable development of salt marsh lay between the cliff supporting the settlement and the channel of the estuary.

(3) Recent erosion has released medieval occupation debris from a dump associated with the bank around the site and from one of the marsh deposits. Artefacts became incorporated into the latter during an earlier, pre-18th century phase of erosion.

(4) The occupation debris comprises abundant pottery, chiefly of the 11th to 12th century, items of brick, stone and metal, and knife-marked animal bones. The pottery originates mainly in the Gloucester area, but includes far-travelled items from both upriver and downriver sources, as well as from east of the Cotswold escarpment.

(5) It seems likely that the site was abandoned some time in the 13th century, in common with a number of other dispersed habitations in the general area.

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