THEME ONE: PREHISTORIC SETTLEMENT, SUBSISTENCE AND SOCIAL ORGANISATION

FURTHER INVESTIGATIONS AT HICKMAN'S, NEVIS

Andrew Crosby

This paper reports on a second season of preliminary archaeological investigations conducted in late June – early July 2001 on the island of Nevis, located within the Leeward Islands in the Eastern Caribbean (Figs. 1.1 and 1.2). The Nevis Heritage Project (prehistory) is a major fieldwork programme on Nevis that aims to establish a sequence for the prehistoric human occupation of the island and to link this with evidence of palaeo-environmental change and long distance resource exchange. The broader aims are to plug significant gaps in our understanding of the human colonisation of the Eastern Caribbean and to develop models of social complexity based on population and resource mobility.

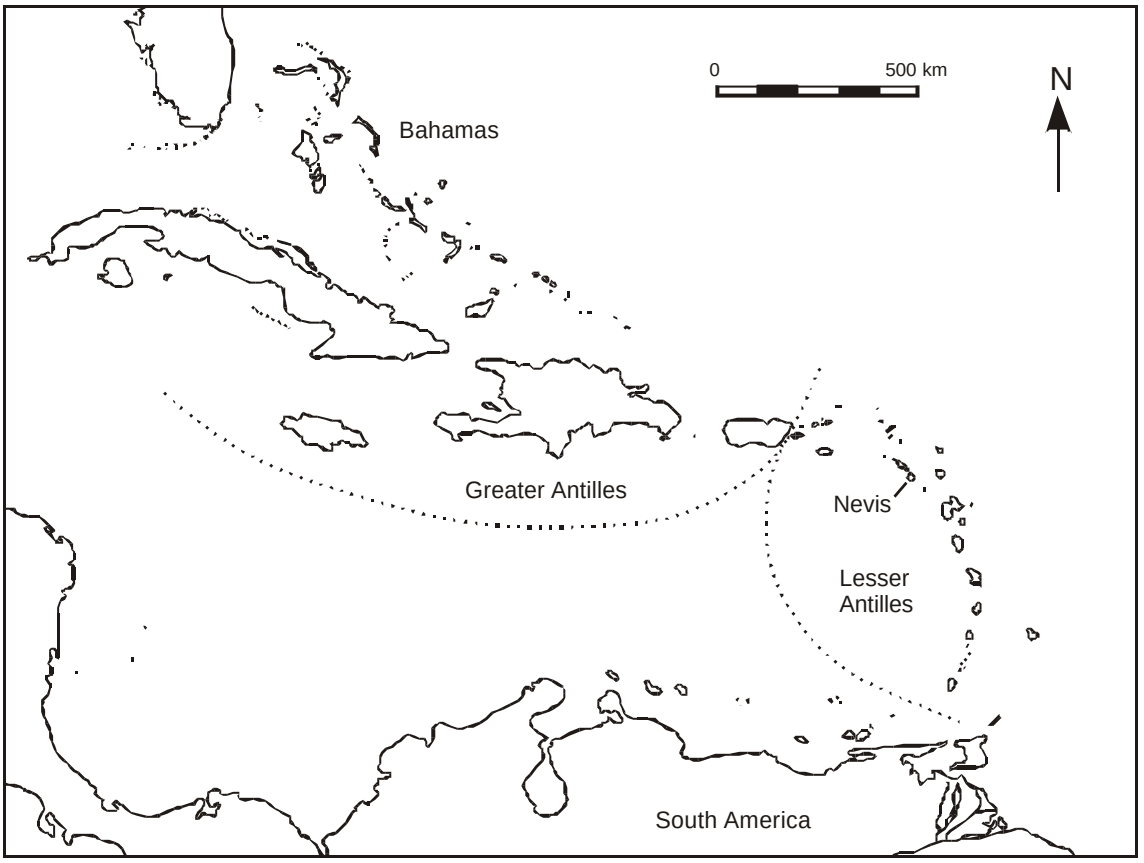

Fig. 1.1 Map of the islands of the Caribbean

The investigations build on previous research conducted on Nevis by Professor S. M. Wilson who between 1984 and 1986 conducted a settlement survey of the island and identified two sites – GE-5 and GE-6 – located at Hickman's as having excellent archaeological potential (Fig. 1.3) (Wilson 1989). To date, investigations at Hickman's by Wilson (Wilson 1989, Versteeg, Schinkel and Wilson 1993) and by The Nevis Heritage Project (Morris, *et al* 2000) have identified the presence of cultural materials from all major periods of Eastern Caribbean prehistory in well-stratified archaeological deposits, including pottery, shell and stone artefacts, post-built structures and human burials. The investigations have also begun to piece together a

three-dimensional model of the formation of the sites and the surrounding environment over time.

The area under investigation (fig. 1.4) lies on an apron of gently sloping land on the island's eastern coast. It is cut by two deep ghauts (dry erosion gullies) and at the sea edge there is a 3m cliff to a rocky shore. This section of coast is sparsely vegetated and is exposed to the prevailing westerly winds and the Atlantic swell. As a result it suffers from erosion due to both surface runoff and storm waves. This is having a damaging effect on the archaeology but is also helpful in exposing the subsurface remains of human settlement. Hickman's forms just one of many concentrated areas of prehistoric remains in the immediate vicinity, inviting both speculation that the windward coast may have formed the hub of early human settlement on the island and caution that this may merely be the area in which the remains of prehistoric occupation are most visible.

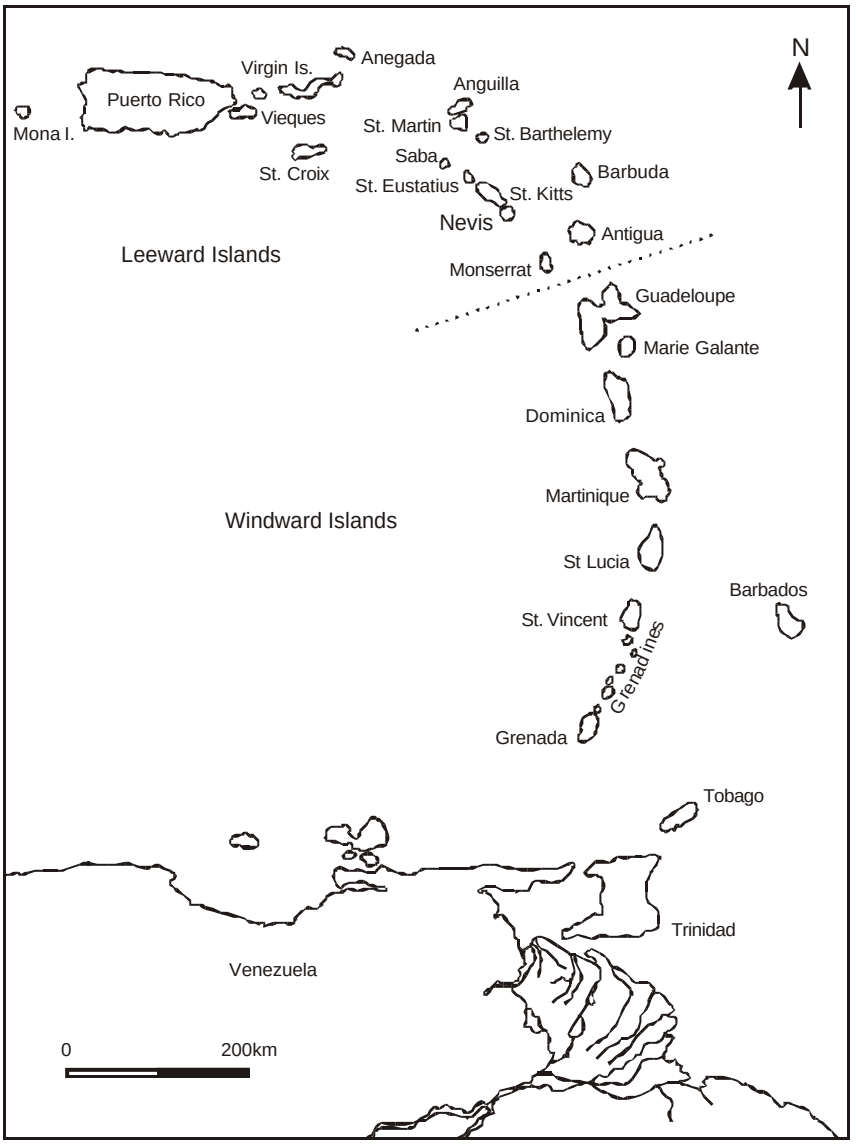

Fig. 1.2 Map of the Lesser Antilles

The investigations at Hickman's continue a program of test excavations, survey and field walking initiated in the year 2000 (Morris, *et al.* 2000). Initially identified as a series of discrete sites, the recent investigations suggest Hickman's is best interpreted as an integrated landscape of partially overlapping prehistoric settlement areas lying within a more extensive landscape of field boundaries, roads, masonry structures and other features resulting from the later use of the area for sugar cultivation. They include:

- GE-5, a large area (approximately 4ha) of ceramic midden, containing pottery of both Saladoid and post-Saladoid styles (assumed to date between 300BC-AD600 and AD600-1600 respectively)
- GE-6, a compact area of aceramic midden that has been radiometrically dated to 605 +/- 290 BC (Wilson 1989)
- GE-8, a small area of sparsely distributed chert flakes, and
- GE-9, a moderately extensive area (approximately 0.25ha) of worked chert.

Both GE-8 and GE-9 are newly discovered and as yet undated, although the apparent absence of pottery suggests they may be contemporary with the aceramic midden (GE-6). One of the primary objectives of the final (third) season of preliminary investigations in 2002 will be to more precisely define the boundaries of all areas of the site.

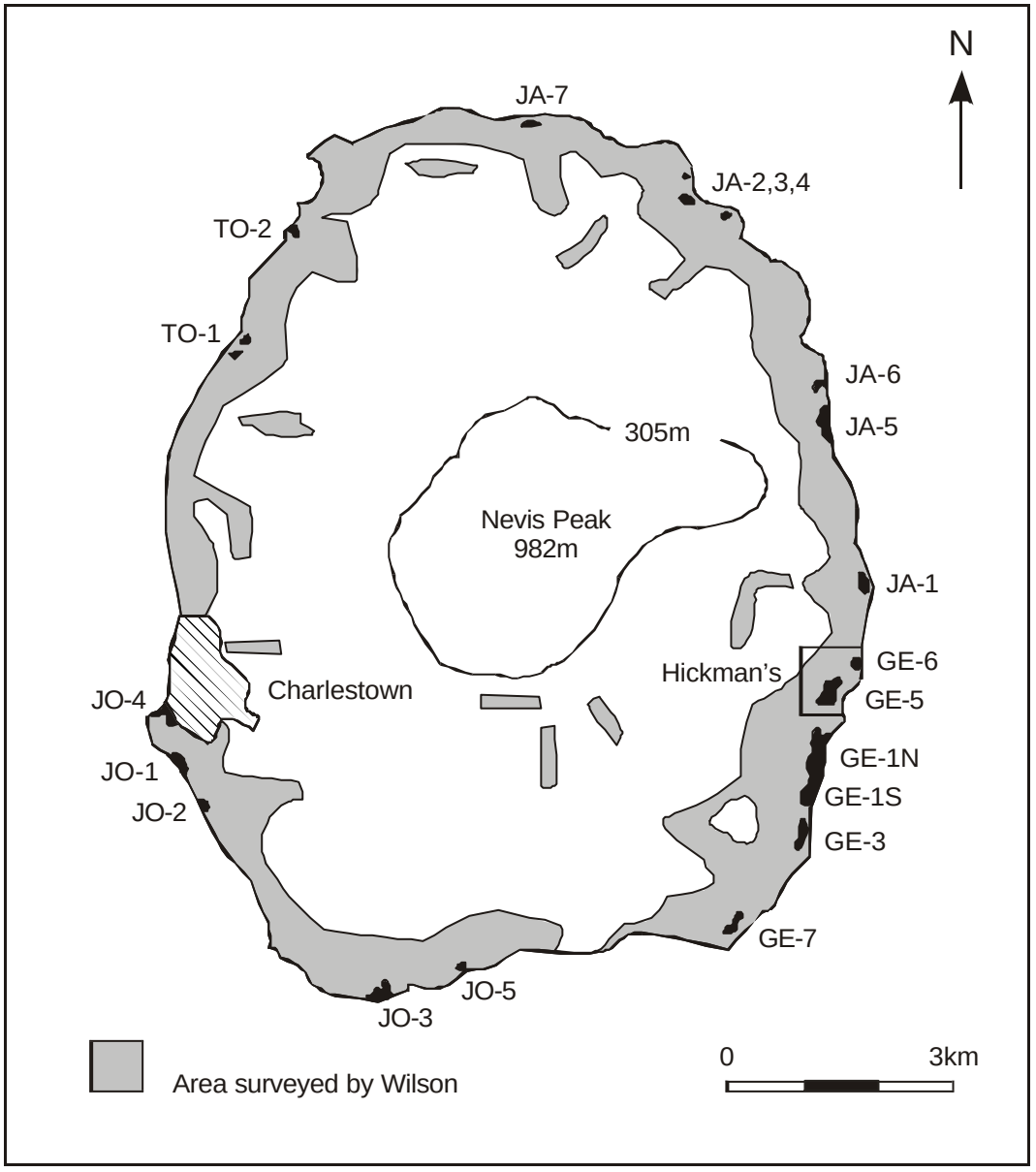

Fig. 1.3 Map of Nevis showing the location of archaeological sites surveyed by Wilson (after Wilson 1989)

The 2001 investigations were completed over eleven days by Andrew Crosby, Elaine Morris and Jen Heathcote (all from the University of Southampton), Peter Bellamy (Terrain Archaeology) and four students from the University of Southampton (Annie Garvey, Laura

Kavanagh, Edward Oakley and Ben Stuckey). They focused primarily on GE-5. Four new testpits were excavated in the southwestern quadrant of the site, a systematic programme of surface pottery collection was initiated across the site, and a programme of auger and soil pit survey—initiated in 2000—was continued across and around the site to define the underlying soil and geology.

Further survey of Hickman's

The topographic survey of Hickman's completed in the year 2000 was supplemented by further survey work in 2001. While fairly minimal, a number of significant additions and alterations have been made to our understanding of the surface features visible on the site (Fig. 1.4).

GE-5

An exploratory survey revealed a surface scatter of pottery and shell midden beyond the southern ghaut. This feature had previously been thought to define the site's southern edge. The new area of surface debris is not extensive. Significantly, however, it almost certainly indicates that the very deep southern ghaut formed as a result of erosion occurring after the prehistoric occupation of the site. There are two important implications.

First, it was previously thought that the density of prehistoric cultural materials decreased up to the ghaut edge. With the known southern margin of the site now extended some 50m to the south, it is now realised that the ghaut actually slices through a significant area of deep cultural deposit. This was confirmed by the discovery of prolific amounts of pottery eroding out of the ghaut's northern bank in several locations. One of these pottery spills was collected as a sample (SC13-22) and is discussed further below.

Second, it is apparent that the most devastating effects of erosion on the site have occurred in recent history. Indeed, according to the landowners Mr and Mrs Cedric David, the southern ghaut formed largely as a result of hurricane activity in the last decade. This explains the until now puzzling location of a masonry structure on the small island at the mouth of the ghaut (Fig. 1.4). At the time when the structure was constructed—presumably during the early period of European sugar cultivation on the island—this would have formed a shelf of gently sloping land along the sea edge. The discovery significantly alters our imagination of the landscape during prehistory and our understanding of the build up of soil deposits.

Further alterations to the surveyed depiction of GE-5 are minor. They include slight changes to the vegetation growing across the site and the identification of the edges of one of Wilson's excavation trenches surviving from his earlier investigations at Hickman's during the 1980s and 1990s.

GE-8

Loosely identified as a thin surface scatter of chert in 2000, the boundaries of this area were systematically defined by fieldwalking in 2001. The mapped depiction has been altered accordingly.

GE-9

GE-9—a new site—was identified north of GE-5 and west of GE-6 while searching for the Ordnance Survey datum point (Fig. 1.4). The OS datum was eventually discovered severely rusted but intact at the northern edge of a sparse to moderately dense surface scatter of worked chert. This lies on the southern brow of the flat-topped spur that lies along the northern edge of Hickman's. The entire spur is severely eroded, criss-crossed by shallow erosion gullies, and almost completely denuded of vegetation except prickly pear and scrubby bushes growing along the edge of the ghaut.

Some time was spent isolating the extent of the chert scatter, which covers an area of approximately 0.25ha. The largest concentrations of chert appeared to lie along the southern edge of this area. No shell was visible although several pieces of severely eroded pottery were noticed within the area of GE-9 and along the spur to the west. This pottery may have been carried into the area by surface runoff. A programme of subsurface testing will be conducted in 2002 to fully determine the nature of the chert scatter and its relationships, if any, with GE-6 and GE-5.

Test excavations on GE-5

The test excavations continue a programme of subsurface sampling of the site along a systematic grid defined by two transects running east-west across the site. Excavation of five testpits along the northern of these transects in 2000 identified a generalised soil profile of four layers (Crosby 2000:15-18). The same basic stratigraphy was encountered in 2001:

- Layer 1. Sugar cultivation soil. The surface deposit, sometimes covered by thin slope-wash or recent turf build-up. It is a compact, hard brown sandy clay layer, approximately 20cm thick, with a moderately high humus content resembling a typical garden soil. Where the cultivations occurred on areas of prehistoric occupation, considerable quantities of crushed shell and highly fragmented pottery have been incorporated into the deposit.
- Layer 2. Prehistoric occupation. Lies immediately beneath the sugar cultivation soil and has been truncated by it. It is a compact grey/brown sandy clay layer, 10-15cm thick with some humus and varying quantities of pottery, charcoal, shell midden, animal bone and worked chert.
- Layer 3. Midden. Lies beneath the prehistoric occupation layer and is differentiated from it by the lack of humus. It is a loose, highly friable sandy or silty clay layer, up to 45cm thick, with frequently large quantities of shell midden and animal bone but reduced quantities of pottery compared to Layer 2. The midden is often deposited in bands differing by colour and soil consistency.
- Layer 4. Natural soil. The basal deposit. It varies markedly across the site ranging from fine silty clay to sandy or gritty clay and conglomerate bedrock. In general, the latter forms the underlying geological base and is covered by pockets of sandy or silty material of varying thicknesses.

Layers 2 and 3 both contain postholes, and other features indicative of structural occupation of the site. In this respect the description of Layer 3 as midden is misleading as it too contains structural evidence of settlement as opposed to mere dumping of refuse. The reasons for the differences between the compositions of the two layers are as yet poorly understood.

Methods

A test pit transect was laid out running east-west across the southern half of GE-5, parallel to and 100m south of the northern transect excavated in 2000. Four test pits—ranging in size from $1m^2$ to $1.5m^2$—were excavated at 50m intervals along the western half of the transect. The testpits were excavated by stratigraphic layers and as 10cm spits within each layer. Twenty litre bulk soil samples were collected from all spits except the surface. Some smaller contexts were collected as whole samples. All samples were processed off site using flotation and all remaining soil was dry-screened on site using a 2.5mm mesh. All ceramic, faunal and worked lithic materials were retained.

Excavation was by trowel, spade and, where necessary, mattock. Ground conditions were particularly dry and caused great difficulty in excavating the densely cemented upper humic layers. This severely restricted the number of testpits that could be excavated. All layers and features were recorded using the single context recording system. Particular care was taken with

the differentiation and recording of contexts—crucial to the correct interpretation of key dating materials, especially charcoal and pottery.

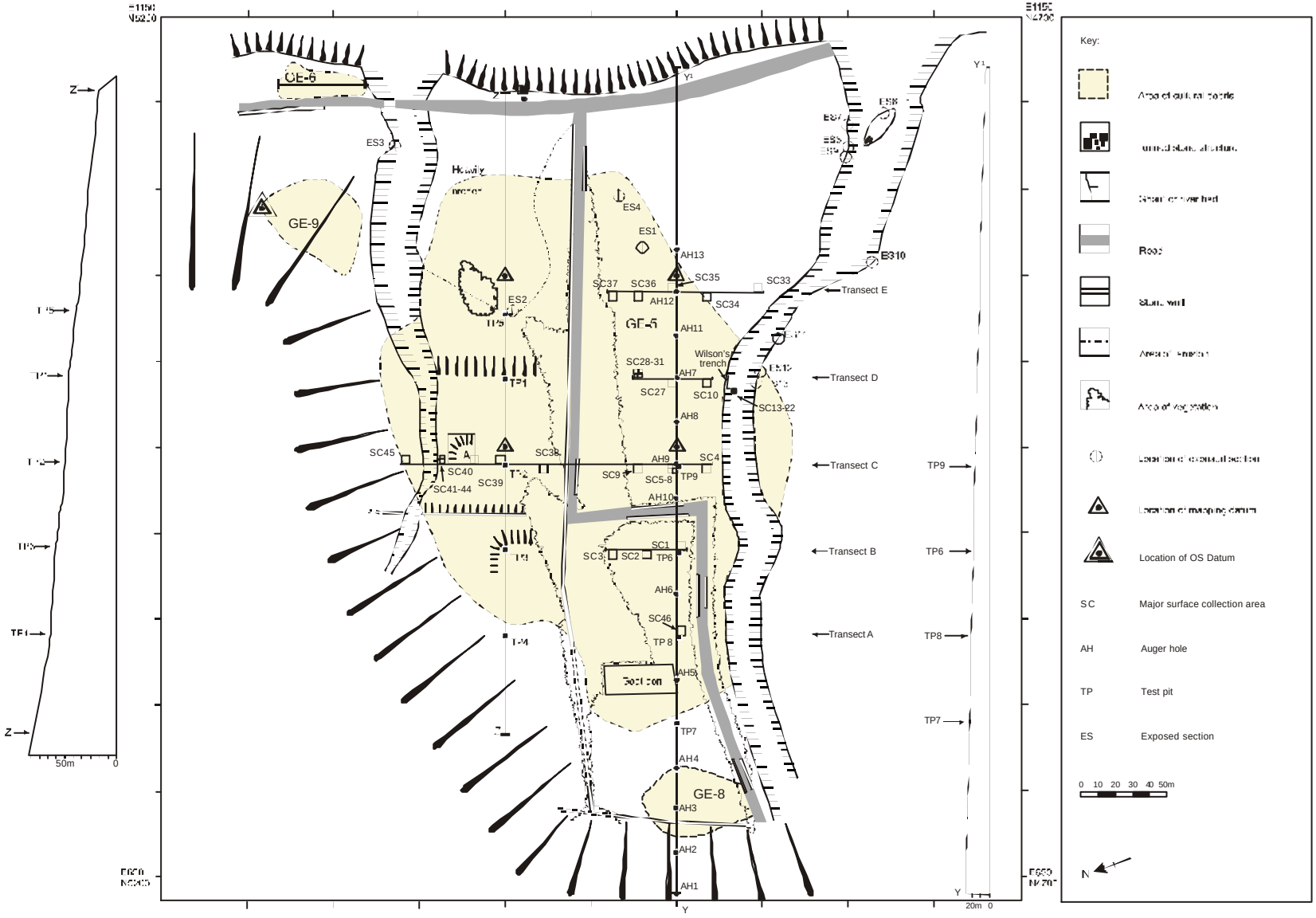

Fig. 1.4 Plan of Hickman's site complex (GE-5, GE-6, GE-8 and GE-9)

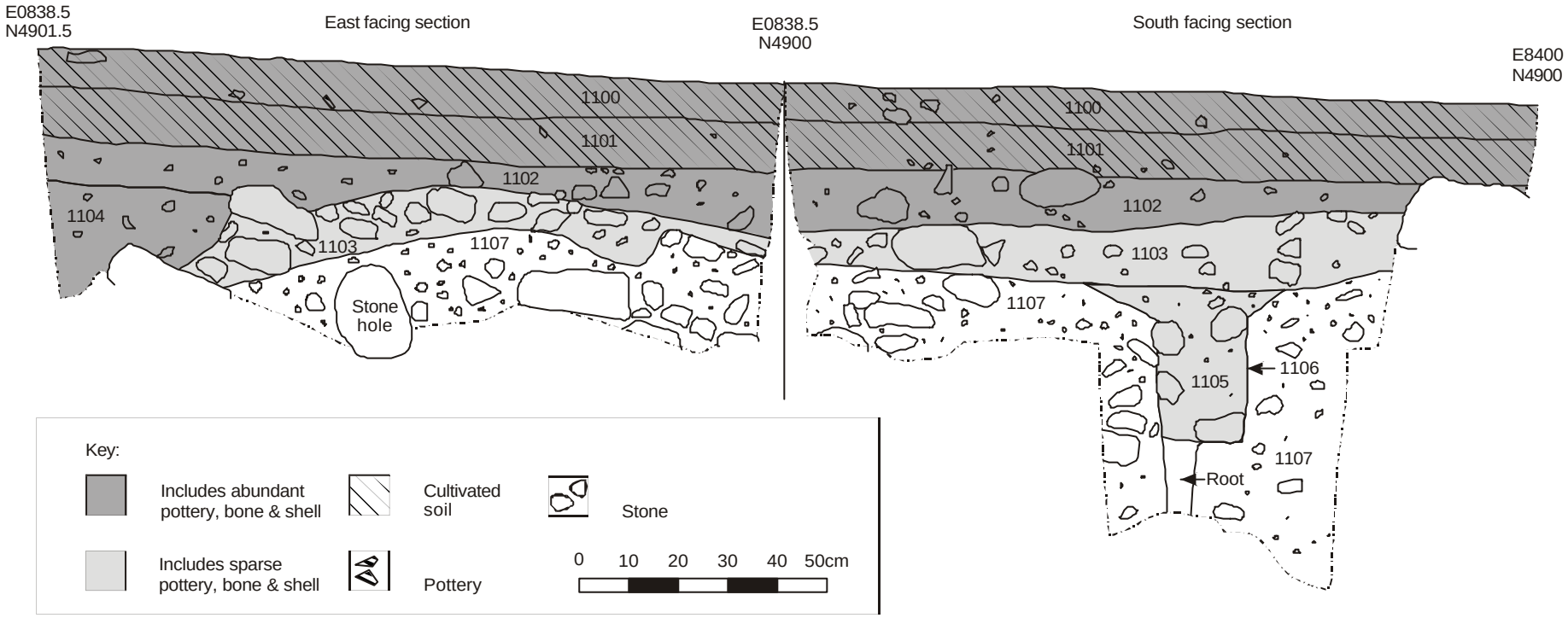

Fig. 1.5 Testpit 6, East and south facing sections

Preliminary results

Testpit 6

Testpit 6 was a 1.5m^2 pit excavated on flat land at the toe of a gentle slope (Fig. 1.4). Although there was a thin surface scatter of shell midden and pottery, there was little to indicate a significant prehistoric occupation deposit. However, a number of ceramic adornos and shell artefacts, including several drilled shell beads and a *zemi* (similar to fig. 4.11 in Theme Four), were found on the surface of the site in the immediate vicinity. The excavations revealed the presence of Layers 1, 2 and 4 but no significant midden layer (Fig. 1.5 & 1.6).

The surface deposits (contexts 1100 and 1101) formed a 20cm layer of dense sandy clay containing moderate quantities of randomly oriented and highly fragmented pottery and shell midden along with a small amount of flaked chert and charcoal. The layer was softer and disturbed by roots in the upper context, but throughout its depth was discoloured with humus, indicating a worked garden soil associated with sugar cultivation.

Beneath it lay two rubbly layers of harder sandy clay, pebbles and large stones containing pottery, worked pieces of chert, charcoal and shell midden (contexts 1102 and 1103). The upper component of this (context 1102) contained comparatively less stone (25-30%) and more pottery. The pottery in the upper spit was fragmented indicating the occasional penetration of deep cultivation (see Table 1.1 below). The lower component (context 1103) was very stony (60 %) and included only a few large pieces of pottery randomly oriented in the ground. It also contained a pocket of dense shell midden and charcoal (context 1104), apparently dumped within the deposit. The two layers together seem to represent the deliberate construction of a rubble platform or terrace on which occupation has occurred.

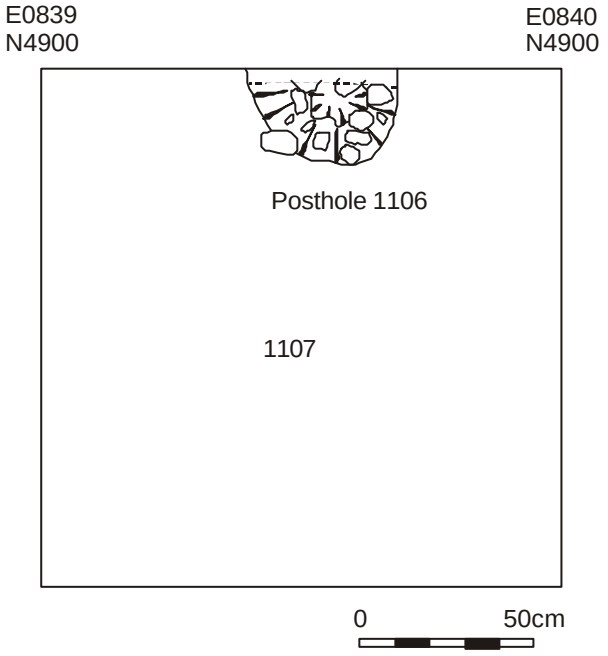

Fig. 1.6 Testpit 6, plan of post hole

A large, straight-sided posthole with a flared top (context 1106) descended from the base of the rubble and was sealed by it. Measuring 22cm in diameter and descending 32cm, the posthole had a flat base and contained one fairly large potsherd. It appeared to be filled with the same material as the rubble layer above, apparently still open at the time the rubble was deposited.

The posthole was cut into a natural deposit of increasingly cemented sandy rubble (context 1107) descending onto conglomerate bedrock at approximately 1m below the surface. A piece

of worked chert and several large pieces of charcoal were found in the upper 2cm indicating a possible ground surface beneath the rubble that may have been momentarily occupied—sufficient for the insertion of the post and little else (Fig. 1.6).

Sparse flecks and small pieces of charcoal were found throughout nearly the full depth of the natural soil indicating human activity in the vicinity while the deposit formed. There is a tantalising but, at this stage, speculative possibility that there may have been considerable human impact on the immediate environment from a very early time, such that the soil above the conglomerate bedrock may have built up after human colonisation.

Testpit 7

Testpit 7 was a $1m^2$ pit excavated on a gently sloping, grassy surface between GE-5 and GE-8. There is no surface evidence of prehistoric occupation between these two areas. Other than a single piece of flaked chert and only seven potsherds within the sugar cultivation layer, the excavation confirmed the absence of any major cultural deposits beneath the surface too. As with Testpit 6, the sugar cultivation layer was approximately 20cm thick and the upper component (context 1200) was comparatively soft, disturbed by roots (Fig. 1.7). The chert and pottery may have become incorporated into the soil as a result of the cultivations. The underlying deposit (context 1202) comprised sandy clay lacking any sign of human occupation. GE-5 and GE-8 therefore can be considered spatially discrete settlement components.

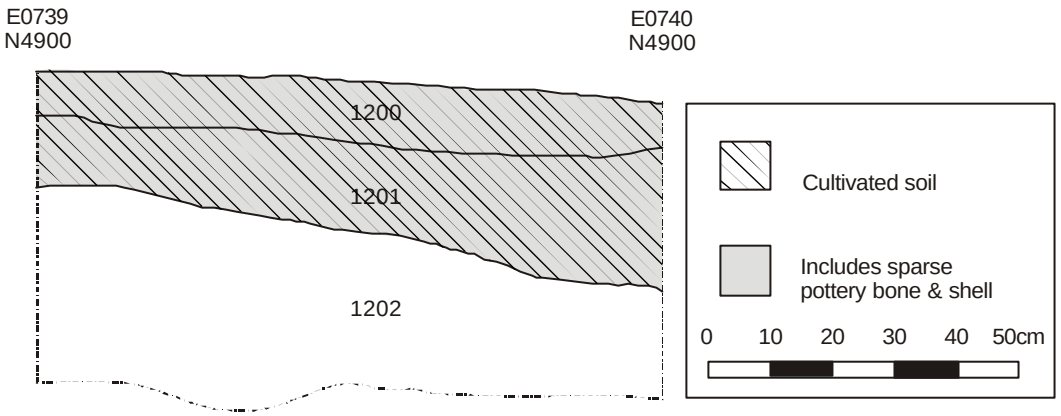

Fig. 1.7 Testpit 7, South facing section

Testpit 8

Testpit 8 was a $1m^2$ pit excavated adjacent to a modern goat pen on a gently sloping, eroded surface between Testpits 6 and 7. As with Testpit 6, only a sparse and fairly unpromising scatter of pottery and crushed shell midden lay around the testpit. Three human burials, however, lie partially exposed in the goat pen 40-50m to the northwest. According to the landowners, Mr and Mrs David, the goats poach the surface of the pen. Along with the burials they regularly expose large quantities of pottery including a complete Saladoid dish which the Davids have kindly donated to the Nevis Historical and Conservation Society

The testpit yielded evidence of all four major stratigraphic layers (Figs. 1.8 & 1.9). The sugar cultivation soil (context 1210) resembled those found in all other testpits—a hard sandy clay layer, approximately 15-20cm thick, that had been discoloured dark brown through the incorporation of humus. It contained charcoal, small stones, and moderately abundant quantities of highly fragmented pottery and crushed shell. Both the pottery and shell were randomly oriented in the ground having been turned over by digging or ploughing. The base of the deposit was highly uneven and difficult to determine, indicating the irregular depth of cultivation.

As a result, the upper 10cm of the underlying occupation layer (contexts 1211 and 1225) was partially turned over by cultivation and also contained highly fragmented and randomly oriented sherds of pottery. Below 25cm depth, however, the deposit contained less humus staining and

the pottery and shell were more abundant and considerably less fragmented (see Table 1.1). As with the cultivation layer, the base of the deposit was very irregular and formed a 5-10cm thick, mottled interface with the underlying midden.

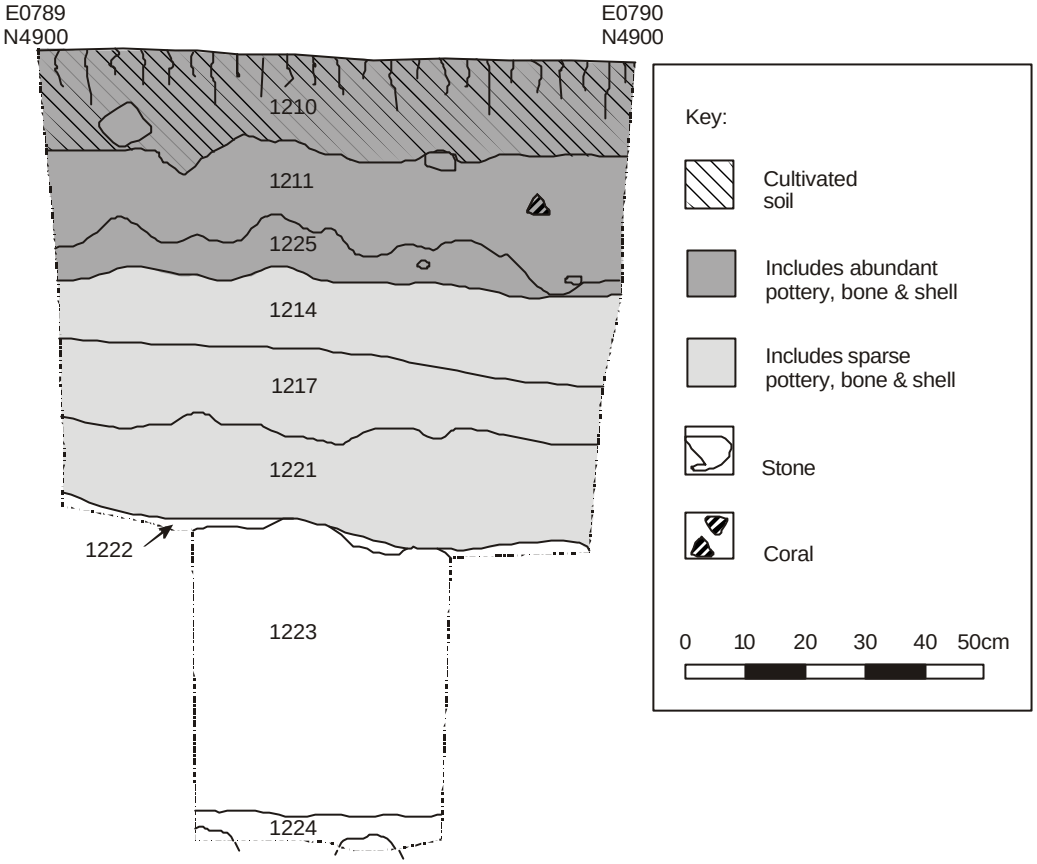

Fig. 1.8 Testpit 8, South facing section

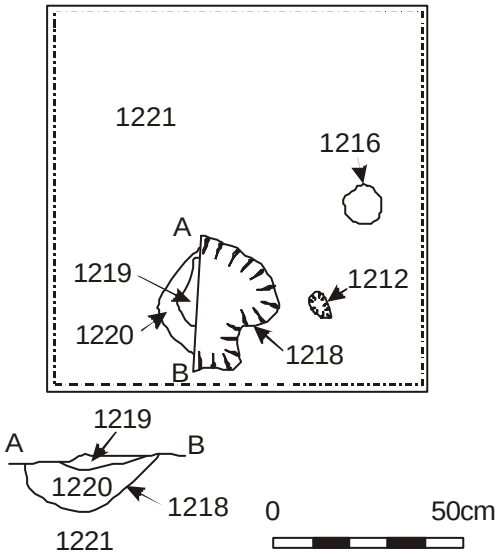

Fig. 1.9 Testpit 8, Context 1221

The midden was considerably softer than the occupation layer above. It was in many ways distinct from any other midden deposits yet found on the site, containing very little pottery and only sparse, very finely crushed shell within a soft matrix of fine sandy clay. The layer was marked by three differently coloured bands (contexts 1214, 1217 and 1221) grading from grey brown to yellow brown at the base. This banding was likely caused by progressive downward staining of humic material from the occupation layer above. However, a number of shallow pits and stakeholes were also encountered at different depths throughout the deposits, particularly on the surface of context 1221 (Fig. 1.9), indicating separate depositional events. One of these pits included a shallow fire-scoop filled with a central core of baked clay (contexts 1218-20).

At its base, the midden was separated from the underlying natural soil by a thin (1-3cm) layer of crusted sandy clay that formed a semi-continuous surface across the square. It was discoloured darker brown in patches, but contained no shell, pottery or charcoal. It may represent a slightly

compacted fossil ground surface or, alternatively may have formed as a result of the leaching of calcareous material from the overlying midden onto the relatively impervious natural base.

The natural soil comprised a clean deposit of yellow sandy clay, 45cm thick, overlying a much grittier deposit of fine sand, grit and packed stones that closely resembles the rubbly bedrock encountered at the base of Testpit 6.

Testpit 9

Fig. 1.10 Annie Garvey, Laura Kavanagh, Mark Nokkert and Ed Oakley excavating and recording Testpit 9

Testpit 9 was a $1m^2$ pit excavated on a slight rise (Fig. 1.4). This is a particularly stony area of the site, only 50m east of the rubbly Testpit 6. Nevertheless, two historic period stone heaps located immediately adjacent to the testpit indicate that some effort had been made to clear the area for sugar cultivation. Moreover, there was a comparatively abundant surface scatter of pottery and shell and coral midden around the testpit indicating that the area had been heavily used in prehistory.

Indeed, Testpit 9 yielded a shallow sugar cultivation layer overlying a deep and extraordinarily rich series of midden deposits (Figs. 1.11 & 1.12). Of the testpits yet excavated at Hickman's it provides the most clearly defined stratigraphic sequence.

The sugar cultivation layer (context 1240) in this instance was only 8-10cm thick and was comparatively stony (10 %), descending onto larger stones (20-30cm in diameter) at the base. The area cannot have been attractive for sugar cultivation and appears to have been gardened only to a fairly shallow depth. Thin as it was, however, the cultivation layer yielded an extraordinary number of pottery sherds (Table 1.1). As with all other cultivated deposits, these were typically fragmented and randomly oriented in the ground.

Beneath the cultivation layer there was an 8-10cm thick prehistoric occupation layer (context 1241) of dark grey-brown sandy clay, also densely packed with pottery and shell midden interspersed around the large stones and small boulders. The pottery fragments were typically large and lay flat within the deposit.

Beneath this upper occupation layer there was a series of three major midden deposits. The uppermost of these (context 1242) formed a 40cm thick layer of light grey brown sandy clay covering the square. In the northeast corner it lay over a wedge of lighter brown sandy clay (context 1245). Both deposits were similar, containing pottery and abundant quantities of shell midden but context 1245 contained less stone and markedly less pottery. It may be spoil from a shallow pit that was excavated into the third, underlying, midden deposit (context 1246).

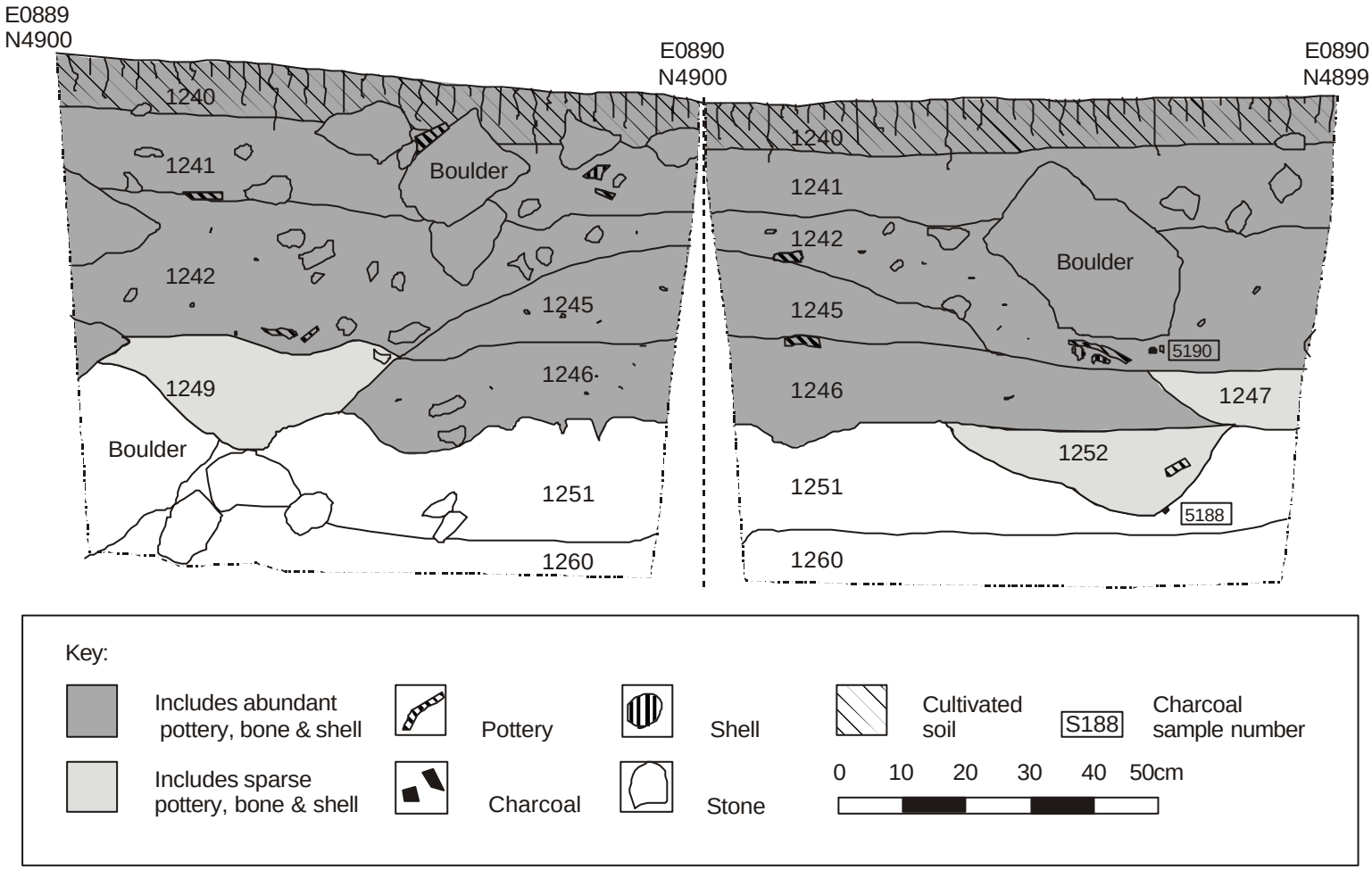

Fig. 1.11 South and West facing sections of Testpit 9

Context 1242 was marked by the inclusion of a large number of stones and small boulders as well as concentrated pockets of pottery, shell and animal bone (Fig. 1.11). The pottery was oriented horizontally throughout the deposit and, along with the stone, decreased in frequency towards the base. Conversely pieces of worked chert became comparatively frequent towards the base of the deposit. This indicates a degree of development throughout the layer's deposition, suggesting the midden was put down as a series of sequential episodes rather than as a single event. Two large scoops descending from the base of the deposit and filled with the same material (contexts 1249 and 1247) are of unknown function but were of irregular shape and profile and may represent stone removal voids. Lying at the very base of the deposit, on the surface of context 1246, were several contiguous fragments of a flat, bone object, possibly a spatula, made from the carapace of a large sea turtle (see Fig. 1.18 below)

By comparison, context 1246 contained markedly little stone (less than 2%), less pottery or faunal material, and only small flecks of charcoal. Most of this material was situated in the upper 10cm of the deposit. Several irregularly shaped depressions (contexts 1253, 1257 and 1259) descending from the base of the layer indicate the probable removal of several large stones prior to its deposition. The layer was also associated with a small posthole, 8cm in diameter (Figure 1.12).

Underlying the midden deposits was a natural soft, silty clay layer, approximately 20cm thick, stained with organic material at the upper margin but otherwise without cultural material. It became increasingly gritty and stony towards the base.

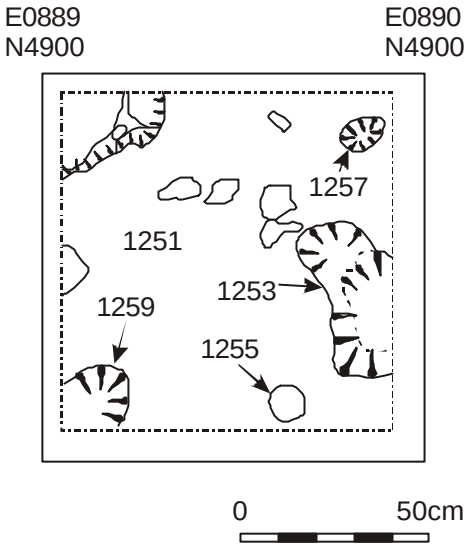

Fig. 1.12 Testpit 9, plan of context 1251

Surface collections on GE-5

Methodology

The area of GE-5 was gridded to allow it to be systematically sampled for surface materials. The grid was tied into the established testpit transects to allow a degree of comparison between the surface and subsurface results. Five parallel surface collection transects were laid in a north south direction, 100m apart (labelled A-E in Fig. 1.4). Datum points were established at 20m intervals along each transect, each datum representing the centre of a 10m by 10m square. Within each square, one 5m by 5m quadrant—that with the greatest abundance of cultural surface debris—was selected for surface collection.

All surface pottery was collected from within each nominated quadrant so long as it could be easily removed from the soil by hand. Quadrants with dense surface pottery were further subdivided into 2.5m by 2.5m squares, each of which was collected separately. In addition to the pottery all worked stone and shell objects were also collected apart from shell celts, most of which are heavily weathered and were not initially recognised to be worked artefacts. This oversight will be remedied in future field seasons.

An additional area of 3m by 3m, divided into 1m units, was surface collected immediately southwest of Transect D on the eroding bank of the southern ghaut. This was an area of abundant large pieces of pottery spilling out of the bank immediately west of the location of one of Wilson's excavation trenches, the edges of which were still visible. The pottery collected will give a good indication of the subsurface materials on this part of the site.

Preliminary results
Only one transect (Transect C) was completed. In 2002 Transects A, B, D and E will be extended across the full width of the site and an additional transect (Transect F) will be collected along the site's eastern edge.

In addition to the 3m by 3m area by Wilson's trench, twenty 5m by 5m quadrants were surface collected totalling 509 square metres. Combined with the 136 square metres collected from Area A in the year 2000 (Fig. 1.4) a total of 1.7 % of the site's approximate 3.75 hectares has now been sampled. Additional quadrants will be surface collected in 2002.

The surface collected pottery has not yet been fully analysed. One of the key elements arising from the surface collections so far is the highly variable results from different areas of the site. Different quadrants have yielded markedly different quantities of surface collected materials. It is hoped that when the sampling procedure is completed the results will help identify patterns in the intensity, nature and chronological age of occupation across the site.

POTTERY ASSESSMENT

Elaine L. Morris

A total of 5698 sherds was recovered this season, 725 sherds (7065 grammes) from testpit excavations and 4973 sherds from 32 surface collection units. Only the pottery from testpits is discussed here (Table 1.1). A full report on the pottery from all three seasons (2000-2002) will be published in a forthcoming monograph.

The methodology for assessment of this season's testpit pottery is as presented in the interim report for 2000 (Morris 2000, 21-2). However, this methodology will be abandoned for all future analysis due to the necessity to provide suitable data for comparison with assemblages from other Leeward Islands sites analysed by University of Leiden pottery specialists (Hofman 1993; Hamburg 1994). Their method of classification will be adopted, and all featured sherds (rims, angled sherds, bases) will be reanalysed for the full report publication. It is recommended to all ceramic scholars in the region that the analysis of any prehistoric pottery assemblages from the Leeward Islands, and elsewhere in the eastern Caribbean, should follow this scheme or one which can be directly correlated to it. The use of intra-regional standardised systems of analysis and recording will rapidly aid our understanding of fieldwork data, and eventually our understanding of prehistoric human behaviour in the region. My sincere thanks go to Mark Nokkert for pointing me in the right direction on this important issue.

The aims of this year's assessment were (1) to determine whether the layers within each testpit contained similar pottery or whether each major layer represented different major chronological periods (Saladoid, Ostionoid) or more subtle ceramic phases within periods (Early Cedrosan Saladoid, Late Cedrosan Saladoid, Elenan Ostionoid, Mill Reef Ostionoid); (2) to determine whether the assemblages from these testpits were similar to or different from each other; and (3) whether these assemblages were similar to or different from the assemblages found in Testpits 1-3 and Area A presented previously (Morris 2000).

Fabrics

As before, the fabrics or pastes of the pottery are gritted with disintegrated components of acid igneous rock including quartz, felspars and ferro-magnesian minerals which are visible using a binocular microscope at low magnification. However, this season it was quite significant that four sherds from the testpits were gritted with shell inclusions, and there are some sherds which appear to have been grog-tempered (crushed pottery added to the paste) and a few which are simply peculiar in appearance! These non-igneous rock bearing fabrics amount to a very small

proportion of the overall assemblage but far more have been identified than previously since none were recovered from Testpits 1-3 excavated last year and only one shell-tempered sherd was found during the surface collection exercise at Area A. Detailed petrological analysis of the fabrics will be conducted for publication in the full report in order to characterise the fabrics and identify likely sources of the pottery. In the forthcoming season, samples of clay deposits located in the area around GE-5 will be collected for comparative analysis. It was noted in December 2001 that such deposits can be found in the ghaut on the north boundary of the site.

The presence of a small amount of non-local pottery, principally shell-bearing fabrics, within assemblages found on volcanic Leeward Islands is well-attested both for the Saladoid (Hamburg 1994) and Ostionoid periods (Hofman 1993), and vice versa with a small amount of igneous rock-bearing fabric pottery found on limestone-based islands in the region (Donohue, *et al.* 1990). These examples demonstrate the movement of pottery and people throughout the Leeward Islands over this two thousand year period of the Ceramic Age.

Forms

Ten new rim types and one new base type were defined from this assessment and these are listed below. A total of 16 of the previous rim types first defined by Wilson (1989; WR series) and added to by Morris (2000, 22-3; AR series) were also identified from these testpits and are re-presented here for convenience(*).

Rims

*WR1 plain
*WR2 griddle (flat circular dishes or platters used to cook manioc cakes
*WR3 platform
*WR4 rounded platform
WR5 canted platform
*WR6 curved platform
*WR7 flared
*WR10 outcurved
*WR13 flat
*WR14 canted plain

*AR16 flat platform (folded over or not)
*AR18 neckless, ovoid jar (closed form vessel)
*AR20 sharply incurved, plain, rounded
*AR21 vertical rounded rim on hemispherical-profile vessel (neutral vessel form)
*AR23 asymmetrical, "boat-shaped" bowl
*AR24 WR14 rim type with A2 shoulder type (open vessel form)
*AR25 external, bevel-edged rim (see AR22 above)
AR26 very tapered, flared rim
AR30 very short, sharply everted, rounded rim (virtually no neck)
AR31 upright, short, flat-topped rim on necked vessel
AR32 convex-platform rim on neutral-profile vessel
AR33 inclined, rounded rim on closed-profile vessel
AR34 rounded, inward-curved rim on carinated vessel (open form)
AR35 graceful, thin, medium-length (15-20 mm), rounded rim on necked vessel (closed form); parallel sides to the rim, not tapered sides
AR36 WR1 and very long upper half of vessel with carination (open form)
AR37 inclined, long (> 30 mm) on carinated-profile (obtuse angle, > 110 degrees) vessel (open form)
AR38 long, graceful, canted plain rim on a reversed, 'S'-shaped, concave-necked, carinated vessel (open form)
AR39 'funnel' or lid-seated rim

Bases
*B1 rounded base profile
*B2 flat base profile
*B3 cylinder base
B4 pedestal base
B5 B2 but oval in plan
*B99 central part of flat base sherd profile; common for central parts of griddle bases to be classified as this type

Angled or Shoulder Sherds

*A2 obtuse-angled shoulder
*A3 rounded shoulder bearing no distinctive inflection

Handles and Lugs
LH lug
SH strap handle
RH rod handle
VH upright or vertical handle

Others
LP lip
SP spout
NUB nubbin
SV sieve

A summary quantification of the rim types is presented in Table 1.2, for the testpits. The wide range of rim types in each testpit is similar to those recovered from Testpits 1-3 (Morris 2000, table 1.3) and again contrasts considerably with the limited range of forms found in Area A (Morris 2000, table 1.2). There are only half as many griddles (WR2) present in this season's testpits as before (16.9% compared to 7.7%), but seven times as many straight-sided vessels, type AR21 (1.3%; 9.1%). Two asymmetrical 'boat-shaped' bowls and several different special cylindrical vessels with open bases (or lack of a bottom) similar to those found previously were recovered. Several of the new types are illustrated in Figure 1.12, which indicate the typical shapes of these medium and large bowls. The wide range of forms is very similar to those found at Golden Rock, St. Eustatius (Versteeg and Schinkel 1992) and at Friar's Bay, St. Martin where deposits were radiocarbon dated to the Late Cedrosan Saladoid period, *c*. A.D. 700-1000 (Hamburg 1994 120-3). New types of vessels include incense burners recognised by their numerous pre-firing perforations, and similar examples have been found at the Golden Rock site on St. Eustatius (Versteeg and Schinkel 1992).

Decoration and red-painting

Examples of zone-incised-crosshatching decoration (ZIC) were only found in the surface collection units and therefore are not discussed specifically in this report but it is important to note that the sherds exist in association with white-on-red pottery (WOR), a combination which indicates that the earliest Ceramic Age occupation at GE-5 is likely to date to the Early Cedrosan Saladoid phase (250 B. C-400 A. D.) (Hofman 1993, 32-3).

The most common decoration found on pottery from Testpits 6-9 is overall red-painting or red-slip, and a fine example of this effect is found on the surface collection adorno illustrated in Figure 1.14. Red-paint is also used to make designs, with WOR the second most common.

Testpit	Context	Sample	Spit	Number of sherds	Weight of Sherds (g.)	Mean Sherd Weight (g.)
6	1100	5000	1A	207	684	3.3
	1101	5002	1B	78	280	3.6
	1101	5004	2A	99	332	3.4
	1102	5005	2B	80	391	4.9
	1102	5006	2B	12	56	4.7
	1102	5007	3	54	649	12.0
	1102	5008	3A	6	32	5.3
	1103	5009	3B	5	58	11.6
	1103	5011	4	7	129	18.4
	1104	5012	4	12	125	10.4
	1105	PH1106	-	1	10	10.0
	1107	5015	-	1	6	6.0
TOTAL				562	2752	
7	1200	5100	1	4	22	5.5
	1201	5101	-	2	11	5.5
	1201	5102	-	1	1	1.0
TOTAL				7	34	
8	1210	5104	1	55	212	3.9
	1210	5105	2A	27	89	3.3
	1210	5106	2A	43	161	3.7
	1211	5108	2B	16	75	4.7
	1211	5109	2B	9	72	8.0
	1211	5110	3	6	66	11.0
	1211	5111	3	57	996	17.5
	1211	5112	4	6	80	13.3
	1211	5113	4	21	206	9.8
	1214	5115	5	1	3	3.0
	1214	5116	5	2	21	10.5
	1217	5119	6	1	7	7.0
	1221	5122	7	2	2	1.0
	1221	5125	8	1	1	1.0
TOTAL				247	1991	
9	1240	5151	1	314	1805	5.7
	1241	5152	2	48	665	13.9
	1241	5153	2	138	1711	12.4
	1242	5154	2	22	111	5.0
	1242	5155	3	31	360	11.6
	1242	5156	3	15	669	44.6
	1242	5157	3	47	612	13.0
	1242	5163	4	20	226	11.3
	1242	5165	4	14	167	11.9
	1242	5169	5	12	112	9.3
	1242	5171	5	23	206	9.0
	1245	5173	3-5	16	67	4.2
	1242	6020	5	1	109	109.0
	1246	5182	5	8	118	14.8
	1246	5184	5	4	47	11.8
	1246	5185	6	4	20	5.0
	1246	5186	6	1	1	1.0
	1247	5174	6	1	6	6.0
	1249	5180	6	1	7	7.0
	1252	5189	scoop 3	5	46	9.2
TOTAL				725	7065	

Table 1.1 Pottery assemblage from the testpits

Testpit/ Context	WR 1	WR 2	WR 3	WR 4	WR 5	WR 6	WR 7	WR 10	WR 13	WR 14	AR 16	AR 18	AR 20	AR 21	AR 23	AR 24	AR 25	AR 26	AR 30	AR 31	AR 32	AR 33	AR 34	AR 35	AR 36	AR 37	AR 38	AR 39
Testpit 6																												
1100	4	-	-	-	-	-	-	2	-	2	-	-	-	1	-	-	1	-	-	-	3	-	-	-	-	-	-	-
1101	4	1	-	-	1	-	-	1	-	-	-	-	-	2	-	-	1	-	-	-	-	-	1	1	-	-	-	-
1102	2	-	-	-	2	-	-	-	-	-	2	-	-	1	-	-	1	-	1	-	1	-	1	-	-	-	-	-
1103-7	-	-	-	-	1	-	-	-	-	-	-	-	1	1	-	-	-	-	-	1	-	-	-	-	-	-	-	-
sub-total	*10*	*1*	*0*	*0*	*4*	*0*	*0*	*3*	*0*	*2*	*2*	*0*	*1*	*5*	*0*	*0*	*3*	*0*	*1*	*1*	*4*	*0*	*2*	*1*	*0*	*0*	*0*	*0*
% of TP	25.0	2.5	0.0	0.0	10.0	0.0	0.0	7.5	0.0	5.0	5.0	0.0	2.5	12.5	0.0	0.0	7.5	0.0	2.5	2.5	10.0	0.0	5.0	2.5	0.0	0.0	0.0	0.0
(Testpit total = 40)																												
Testpit 8																												
1210	1	4	2	2	-	-	-	2	2	1	-	-	-	2	-	-	1	1	-	2	-	-	-	-	-	-	-	-
1211	3	2	-	1	-	1	1	1	-	1	1	1	-	3	-	1	1	-	-	-	-	-	-	-	-	1	-	-
sub-total	*4*	*6*	*2*	*3*	*0*	*1*	*1*	*3*	*2*	*2*	*1*	*1*	*0*	*5*	*0*	*1*	*2*	*1*	*0*	*2*	*0*	*0*	*0*	*0*	*0*	*1*	*0*	*0*
% of TP	10.5	15.8	5.3	7.9	0.0	2.6	2.6	7.9	5.3	5.3	2.6	2.6	0.0	13.2	0.0	2.6	5.3	2.6	0.0	5.3	0.0	0.0	0.0	0.0	0.0	2.6	0.0	0.0
(Testpit total = 38)																												
Testpit 9																												
1240	3	1	-	4	-	-	1	2	-	3	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1241	2	2	2	1	-	1	3	1	1	3	-	1	-	1	-	-	2	-	-	-	-	-	-	-	-	-	-	1
1242	3	1	-	-	2	-	1	1	-	4	-	-	-	-	1	1	-	-	-	-	-	1	-	-	1	1	1	-
1245-52	2	-	1	-	-	-	-	-	-	4	-	-	-	1	-	-	1	-	-	1	-	-	-	-	-	-	-	-
sub-total	*10*	*4*	*3*	*5*	*2*	*1*	*5*	*4*	*1*	*14*	*1*	*1*	*0*	*3*	*1*	*1*	*3*	*0*	*0*	*1*	*0*	*1*	*0*	*0*	*1*	*1*	*1*	*1*
% of TP	15.4	6.2	4.6	7.7	3.1	1.5	7.7	6.2	1.5	21.5	1.5	1.5	0.0	4.6	1.5	1.5	4.6	0.0	0.0	1.5	0.0	1.5	0.0	0.0	1.5	1.5	1.5	1.5
(Testpit total = 65)																												
TOTAL	24	11	5	8	6	2	6	10	3	18	4	2	1	13	1	2	8	1	1	4	4	1	2	1	1	2	1	1

Table 1.2 Quantification of rim types from the testpits

Overall red-painting, not forming specific geometric or curvilinear designs, is extremely frequent within the testpit assemblages (Table 1.3), and this range of frequency is similar to that published for the Golden Rock site where 59.2% of the sherds are red-painted. There is a strong possibility that the greater frequency of red-painting in Testpit 9 and much less frequency in Testpits 6 and 8 could represent a chronological variation between these assemblages but this needs to be tested statistically. The use of red-painting may also be a measure of the presence of fine vessels, and indicate variation in their deposition across the site as a result of the different locations of on-site activities or household status.

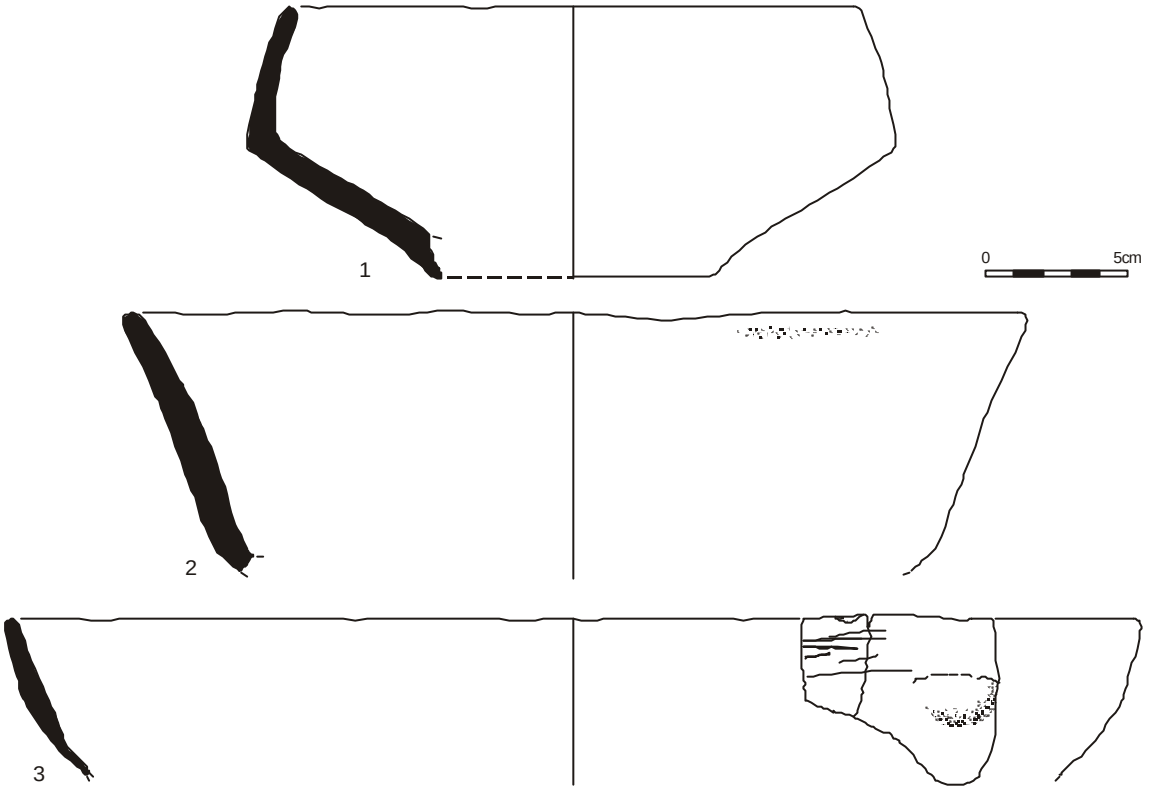

Fig. 1.13 Pottery from Testpit 9, context 1242

A new type of decoration, not identified amongst the sherds from Testpits 1-3, is the use of black slip or paint. In addition, there are numerous examples of incised lines, both linear and curvilinear in execution. The presence of red, WOR and black paint decoration along with the linear decoration and the occurrence of nubbins and modelled heads on rims indicate that GE-5 continued to be occupied during the Late Cedrosan Saladoid phase of the Leeward Islands from about 400-600/850 A. D. (Hofman 1993, 34).

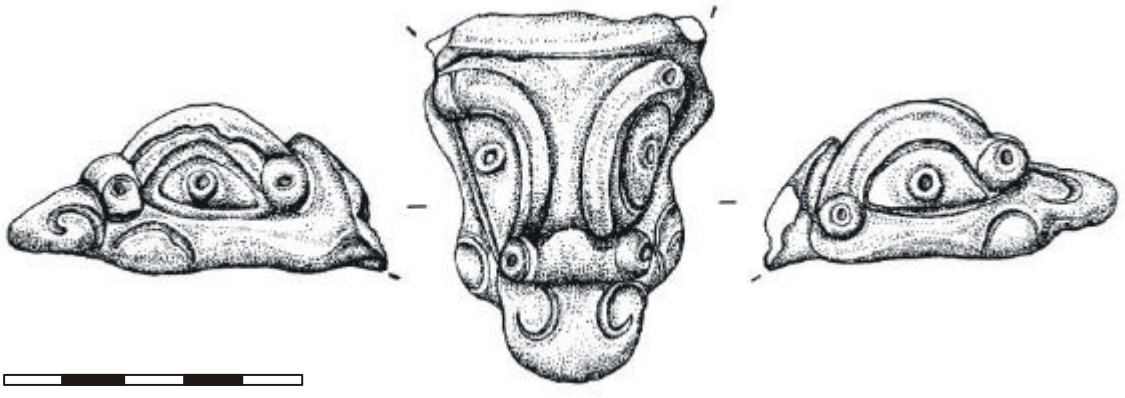

Fig. 1.14 Adorno found during surface collection of GE-5

Vessel Wall Thickness

The thickness of vessel walls increases during the Ceramic Age in the Leeward Islands, with thinner walled vessels more common in the Saladoid period and thicker vessels in the Ostionoid period (Wilson 1989). It was established in the previous interim report (Morris 2000, 29-31, table 1.5, fig. 1.13) that the mean sherd thickness of vessel walls could be categorised into thickness coded groups and presented as cumulative percentage frequencies for comparison within testpits, amongst testpits, and against surface collection areas. Table 1.4 presents the vessel wall thickness data from testpits 6, 8 and 9 using these same categories (code 1 = <5mm; 2 = 5-<7 mm; 3 = 7 - <9 mm; 4 = 9-<11 mm; 5 = 11-<13mm; 6 = 13-<15mm; 7 = 15-<17 mm).

Testpit	Context	Percentage of red-slipped sherds
6	1100	8.7
	1101	15.8
	1102	36.8
8	1210	11.2
	1211	23.5
9	1240	88.9
	1241	66.1
	1242	73.0

Table 1.3 Red-slipped sherds

Testpit 6				
Context	*1100*	*1101*	*1102*	*1103-7*
Thickness Code	Cum. %	Cum. %	Cum. %	Cum. %
1	5.9	1.7	-	4.0
2	36.8	28.1	33.3	36.0
3	82.4	74.7	78.4	68.0
4	97.6	94.2	92.3	96.0
5	100	98.2	97.9	100
6	-	99.9	100	-
Number of sherds recorded	204	174	144	25

Testpit 8		
Context	*1210*	*1211*
Thickness Code	Cum. %	Cum. %
1	3.3	6.4
2	33.9	38.5
3	77.7	77.9
4	95.1	91.7
5	99.2	100
6	100	-
Number of sherds recorded	121	109

Testpit 9				
Context	*1240*	*1241*	*1242*	*1245-52*
Thickness Code	Cum. %	Cum. %	Cum. %	Cum. %
1	3.6	5.2	2.8	7.9
2	44.0	40.5	47.1	71.1
3	74.6	74.6	74.4	92.2
4	95.1	95.4	98.8	97.5
5	98.7	99.4	99.4	100.1
6	100	100	100	-
Number of sherds recorded	307	173	176	38

Table 1.4 Vessel wall thickness from Testpits 6, 8 & 9

Too few sherds were recovered from testpit 7 for comparative analysis, and this may also be the case for contexts 1103-1107 (see Table 1.1). Many of the contexts from the lower depths

identified in testpits 6, 8 and 9 contained very few sherds and therefore these were grouped together by testpit to provide a possible comparative subgroup of material, although it is quite likely that this may be an inappropriate exercise which needs statistical assessment in its own right. The upper layers within these testpits, however, provided ample numbers of sherds for this exercise.

Testpit 6 pottery is remarkably the same throughout based on sherd thickness alone. Examination of contexts 1100-1102 reveals that 50% of the pottery is found between thickness codes 2 and 3, that 75% of the pottery is code 3 or less and that all of the pottery lies within code 6 or thinner. The same is true for Testpit 8 contexts 1210 and 1211, and also for Testpit 9 contexts 1240-1242. However, subgroup 1245-1252 is much thinner than any of the other contexts with nearly 75% of the small assemblage (38) found to be code 2 or less and over 92% code 3 or less. Although this is a small subgroup, it is likely to be a statistically significant difference in vessel wall thickness. It may also be important to indicate that the cumulative percentage of sherds measuring code 2 or less from testpit 9 is consistently within 10% or more frequent (41-47%) than those within Testpits 6 and 8 (28-37%) which indicates a greater number of thinner sherds overall from Testpit 9.

Testpits 1-3			
Layer	*1*	*2*	*3*
Thickness Code	Cum. %	Cum. %	Cum. %
1	7.4	9.0	11.1
2	39.0	34.6	59.2
3	69.5	67.7	76.5
4	84.2	88.8	87.6
5	92.6	96.3	92.5
6	98.9	97.8	97.4
7	100	100.1	99.9
Number of sherds recorded	95	133	81

Table 1.5 Vessel wall thickness of Testpits 1, 2 & 3

So, how do these mean sherd thickness data compare to those recorded for the pottery from layers 1-3 within Testpits 1-3, which are reprinted here as Table 1.5? The first thing to note is that layers 1 and 2 are very similar to the data from testpits 6 and 8 but it is very interesting that 75% of the pottery from these layers is found between codes 3 and 4 rather than codes 2 and 3. This may however be a recoding error caused by not recognising small fragments of thick griddle bases during the assessment of last season's pottery – the flat central parts of bases are not meant to be recorded as part of the vessel wall thickness exercise, only walls of vessels are, but this is often difficult to determine when the sherds are small pieces. It was easier to identify griddle base fragments this year as a result of examining many more sherds. What is likely to be important is the similarity between layer 3 of Testpits 1-3 and subgroup 1245-1252 of Testpit 9. Both of these have over 50% of their sherds measuring within code 2 or less. As mentioned above, the subgroup has over 71% within these very thin codes, while layer 3 has 59%.

Therefore it is interpreted here that, based on vessel wall thickness alone, the earliest pottery from the two seasons was found in the contexts 1245-1252 subgroup of Testpit 9, the next ceramic phase is represented by the pottery from layer 3 of Testpits 1-3, the third ceramic phase by contexts 1240-1242 in Testpit 9, and then subsequently all other contexts from Testpits 1-3, and 6 and 8. The final ceramic phase on the site was recognised as Ostionoid in type and this was located in Area A and described in the previous interim report.

The vessel wall thicknesses were recorded from the Friar's Bay, St. Martin assemblage and these were summarised as having 71% of the coded rim sherds measuring between 6 and 8 mm (Hamburg 1994, 121), which again indicates the similarity between the pottery from Testpits 6-9 and this assemblage dated to the late Cedrosan Saladoid.

Dating Summary

To summarise: the range of vessel forms, the frequency of unpatterned, red-painted decoration, the common occurrence of white-on-red and black paint decoration and the mean wall thickness data all indicate that the pottery from the Testpits 6-9 correspond to the Cedrosan Saladoid

period of the first millennium A. D. There is some evidence to suggest from unstratified sherds of zone-incised-crosshatching decoration and the unusual percentage of overall red-painting from Testpit 9 that GE-5 was occupied from the early Cedrosan Saladoid but that the majority of the excavated material is late Cedrosan Saladoid and contemporary with the Golden Rock site, St. Eustatius and the Friar's Bay site, St. Martin. Future detailed analysis, radiocarbon determinations and comparison with these and other published assemblages from the Leeward Islands will be able to refine this dating assessment and determine how late in the Ceramic Age this site was occupied. In addition, future research will focus on the function of vessels and the trading contacts evidenced by non-local fabrics amongst the pottery found in association with the chipped and polished stone artefacts also of non-local origin.

CHIPPED STONE FROM HICKMAN'S (GE-5) SITE

Peter Bellamy

During the 2001 season, a total of 204 pieces of chipped stone was recovered from this site: eight from the testpits and 192 from specific surface collection areas; and four pieces were collected from the general surface of the site. The condition of the assemblage was generally good, with only a slight degree of post-depositional damage apparent. About 20% of the assemblage was burnt.

The raw materials used were similar, though one type of chert or chalcedony has been identified, which may come from a local Nevisian source, in the Saddle Hill area. Only a very small proportion (less than 2%) of the assemblage was made from this material. Further fieldwork is needed to confirm the source of this material.

In general, the comments made on the material collected during the previous field season are broadly applicable to this present assemblage and will not be repeated here (Bellamy 2000). Full analysis of these stratified assemblages will be conducted at the end of 2002 fieldwork.

STONE OBJECTS FROM HICKMAN'S (GE-5) SITE

Peter Bellamy

A single small fragment of worked stone has been recovered from Testpit 8 (context 1210). This is a very small chip of carved stone with a scalloped edge and decorated with incised lines, perhaps representing hair or feathers. This fragment may originate from a pendant or similar object. The rock type has not yet been identified.

Six pieces of worked stone were recovered from the surface collection and a further five pieces picked up from the surface outside the surface collection units. The most noteworthy object is a stone (?diorite) barrel-shaped bead, possibly from a source on Antigua. In addition, there are five flakes of fine-grained volcanic rock, three polished pebbles, a possible rubber, and one other utilised pebble.

ANIMAL REMAINS FROM HICKMAN'S (GE-5) SITE

Mark Nokkert

This report focuses on the animal remains (vertebrate and invertebrate remains except molluscs) found during the 2000 and 2001 site excavations at the Hickman's (GE-5) site. This is an

abridged version of the original report (Nokkert 2002a). The primary goal is the provision of a preliminary characterisation of the assemblage, with a focus on the subsistence economy and procurement strategies of the site inhabitants. Previously, a Saladoid assemblage from the Hickman's site, excavated in the 1980s (Wilson 1989), was analysed by Kozuch and Wing (N.D.).

Materials and methods

Animal remains from Testpits 1 (context 1006), 8 (contexts 1214, 1217, 1221), and 9 (contexts 1242,1246) were analysed. All remains originated from undisturbed cultural midden deposits. From each context remains from the 2.5 mm dry screen (DS), as well as from the >5mm and 5-2mm fractions of the flotation residues (BS) were analysed, plus a few of the 2-1 mm fractions of the flotation residues.

The remains were identified with the aid of a private reference collection plus the collections of the Natural History Museum in London. Identification was achieved to the lowest taxonomic level possible, plus to element and side. The percentage and portion of the element present was also recorded, plus for mammal remains the status of the epiphysial fusion. In addition, burning, cut or chop marks, or worked bone was recorded, and notes were made of other taphonomical issues (e.g., gnawing, pathologies). Analysis was carried out using NISP (Number of Identified Specimens) and MNI (Minimum Number of Individuals), using standard zooarchaeological techniques (Reitz & Wing 1999). The data of the various spits within each test pit were amalgamated for the calculation of MNI.

Results

A total of 67,120 animal remains was analysed. Of these, 5218 (or 7.8%) specimens could be identified to at least family level. The animal remains were generally well preserved, especially from test pit 9. The fragmentation of the remains was, however, generally rather high. 9.2% of the remains showed signs of burning, predominantly on remains of larger terrestrial taxa such as iguanas, agoutis and rice rats, as well as sea turtles and relatively large fish such as snappers, groupers and tunafish, indicating that large taxa were possibly more often grilled than smaller taxa.

Of the mammal remains, most remains were from extinct Oryzomyini rice rats, resembling the size of the genus *Oryzomys*. Similar-sized rodent remains have been found on other islands in the region, such as St. Kitts, St. Eustatius, Saba and St. Martin (Wing 1995,1996; Nokkert 1999a) Remains of the agouti, *Dasyprocta* sp., similar in size to *D. leporina*, were also found. This rodent was introduced by the Amerindians to the Lesser Antillean islands, and has since been exterminated from most islands including Nevis (Wing 1993; Wing & Wing 1997). Both agoutis and rice rats would have been attracted to horticultural plots, where they would have been easy prey, although agoutis may also have been kept near settlements in a semi-domesticated state. One skull piece of a dog (*Canis familiaris*) was also found, originating from a puppy under three months old (K. Clark, pers. comm. 2002). Dogs were introduced by Amerindians to the Lesser Antillean islands, where they were used for hunting, although some were also consumed (Sauer 1966). Two canines of a bat (*Brachyphylla cavernarum*), probably incidental intrusive elements, plus one human molar were also found.

Several bird species could be identified, most belonging to the family of pigeons and doves (Columbidae): *Columba squamosa*, *Zenaida aurita and Geotrygon* sp. A few remains of Thrashers or Thrushes (Mimidae/Turdidae) were also found, as well as one element of a shorebird, the wader *Rallus longirostris*.

Amongst the reptile remains several elements of sea turtles (Cheloniidae) were found, as well as a small number of iguana remains (*Iguana delicatissima*). Amongst the remains of small

reptiles, a small snake (*Alsophis rufiventris*), exterminated by the introduction of the mongoose on Nevis, plus two lizards (*Anolis sp.; Ameiva erythrocephala*) could be identified. Since many Caribbean reptilian species are known to be attracted by human habitation and refuse areas (Henderson & Powell 2001), the remains of most small reptiles, except perhaps the snake remains which show regular signs of burning, could be accidental intrusives in the deposits.

Most of the remains belonged to fishes, plus a single shark tooth (*Carcharhinidae*, possibly *Negaprion breviostris*). Carnivorous fish seem particular abundant in the assemblage, most notably groupers (Serranidae), jacks (Carangidae) and grunts (Haemulidae), with moderate numbers of needlefishes (Belonidae) and wrasses (Labridae). In contrast, typical reef herbivores such as parrotfish (Scaridae) and surgeonfish (Acanthuridae) were not very abundant. Furthermore, the assemblage included an abundance of typical schooling species, which may have been caught with the aid of nets from shore or from boats in inshore waters, such as *Selar crumenophthalmus* and herrings (Clupeidae), although typical solitary taxa such as porgies (Sparidae) and triggerfish (Balistidae) were also found occasionally. Finally, taxa belonging to the following fish families were only sporadically encountered: squirrelfish (Holocentridae), snappers (Lutjanidae), goatfish (Mullidae), angelfish (Pomacanthidae), barracudas (Sphyraenidae), boxfish (Ostraciidae) and porcupinefish (Diodontidae).

Most fish identified can most commonly be found in the nearby inshore waters and coral reefs. The only typical pelagic taxa identified are the flyingfish (Exocoetidae), while barracudas (Sphyraenidae) and tunafish (Scombridae) can be found in both pelagic and inshore waters. Based on the ecological associations and behaviour patterns of the fish taxa identified, it seems likely that a variety of different fishing techniques were employed by the inhabitants of the site. The predominance of carnivorous fishes and schooling species suggest that hook-and-line fishing in inshore and near rocky outcrops and coral reefs, in combination with nets in inshore waters and beach seines near shore were probably the dominant fishing techniques employed. However, the presence of typical herbivorous species indicates that at least a part of the fish taxa could also have been caught in traps set in and near the coral reefs, a method still employed regularly by fishermen today.

	Terrestrial taxa				**Marine taxa**				
	Mammal	**Bird**	**Reptile**	**Invertebrate**	**Reptile**	**Fish-Inshore/Pelagic**	**Fish-Reef**	**Invertebrate**	***total MNI***
TP 1 BS	12.5%	4.2%	12.5%	12.5%	0.0%	16.7%	25.0%	16.7%	*24*
TP 8 BS	12.5%	0.0%	8.3%	33.3%	0.0%	20.8%	20.8%	4.2%	*24*
TP 9 BS	10.8%	2.7%	2.2%	37.1%	0.5%	22.6%	19.9%	4.3%	*186*
TP 1 DS	10.0%	5.0%	10.0%	20.0%	0.0%	15.0%	25.0%	15.0%	*20*
TP 8 DS	10.0%	10.0%	10.0%	33.0%	0.0%	13.0%	20.0%	3.3%	*30*
TP 9 DS	13.8%	3.5%	2.6%	39.8%	0.5%	16.3%	21.4%	2.0%	*196*

Table 1.6 Comparison of the relative importance of different animal classes in the three test pits (by MNI). Taxa assigned to groups following criteria by Wing (2001) and Kozuch & Wing (N.D.).

Most abundant within the invertebrate remains were land crab remains, most notably *Gecarcinus ruricola* and *G. lateralis*, plus some remains of the large land crab *Cardisoma guanhumi*, which can be found near mangroves. Remains of the land hermit crab, *Coenobita clypeatus*, were also found abundantly. Of the marine crab species, *Mithrax spinosissimus* and *Carpilius corallinus*, the two largest of the marine crab species, were also regularly encountered in the assemblage. A few remains of other marine crabs (*Calappidae and Callinectes* sp.) as well as some sea urchin remains (*Echinometra lucunter*) were also found.

Discussion

Terrestrial taxa comprise a significant portion of the assemblage, although the number of terrestrial specimens appear somewhat lower for test pit 1 (Table 1.6). The terrestrial taxa are in

all instances dominated by mammal (mainly Oryzomyini) and invertebrate remains (mainly *Coenobita clypeatus* and *Gecarcinus*), while terrestrial bird and reptile species are clearly of lesser importance. Amongst the marine taxa fish are clearly dominant in all test pits, with inshore and reef taxa present in more or less similar proportions. Amongst the fish taxa a few families make up the bulk of the fish remains, a pattern which is repeated in each of the assemblages: Carangidae, Haemulidae and Serranidae, which together for test pit 9 account for about two-thirds of the fish individuals identified. Carnivorous species clearly predominate in the assemblage (BS and DS: 78% for TP 9). Schooling species are also very abundant, comprising over half the fish individuals identified for test pit 9 (BS 58%; DS 55%).

The relative high numbers of terrestrial vertebrate and invertebrate remains in the Hickman's assemblage is similar in importance as seen for other Saladoid sites in the region, such as Anse des Pères on St. Martin, Golden Rock on St. Eustatius and Sugar Factory Pier on St. Kitts (Wing & Scudder 1980; Klift 1992; Nokkert 1999a), although a somewhat lesser abundance of terrestrial animals compared with the oldest deposits of Trants on Montserrat, Hope Estate on St Martin, and Morel on Guadeloupe (Wing 1995; Dukes & Reitz 1995; Reis & Steadman 1999; Nokkert 1999b), where land crabs, birds and reptiles were also more important.

The general good preservation of the animal remains and a heterogeneity of the vertical distribution in the Hickman's deposits suggests a relatively rapid deposition of the remains. Nevertheless, a slightly smaller terrestrial component in Testpit 1 suggests that the deposits of Testpit 1 may possibly be somewhat later than those in Testpits 8 and 9. Furthermore, less terrestrial land crab remains, a higher number of land hermit crabs and less iguana remains in the assemblage as a whole may be indications that the assemblage studied here is perhaps slightly younger in date than the assemblage previously analysed by Kozuch & Wing (N.D.).

SHELL REMAINS FROM HICKMAN'S (GE-5) SITE

Mark Nokkert

This report focuses on the marine shell remains found during the 2000 and 2001 site excavations at the Hickman's (GE-5) site. This is an abridged version of the original report (Nokkert 2002b). The primary goal is the provision of a preliminary characterisation of the assemblage, with a focus on the subsistence economy and procurement strategies of the site inhabitants. A Saladoid assemblage from the Hickman's site, excavated in the 1980s (Wilson 1989), was previously analysed by Kozuch and Wing (N.D.). They suggested that shellfish was only a small component of the diet (85 of a MNI of 357), consisting mainly of small gastropods.

Materials and methods

Marine shell remains from Testpits 1 (context 1006), 3 (contexts 1052,1053), 8 (contexts 1214, 1217, 1221), and 9 (contexts 1242,1246) were analysed. All remains originated from undisturbed cultural midden deposits. All soil (except from Testpit 3) was dry screened over a 2.5 mm screen. The remains were identified with the aid of a private reference collection plus several identification guides to the lowest taxonomic level possible. All specimens were identified to the part of the shell present, and, in the case of bivalves, to side. Burning on the remains was also recorded. Analysis was carried out using NISP (Number of Identified Specimens), MNI (Minimum Number of Individuals) and the weight of the remains, using standard zooarchaeological techniques (Claassen 1998; Reitz & Wing 1999). The data of the various spits within contexts were amalgamated for the calculation of MNI.

Results

The shell remains were generally well preserved, although fragmentation was often high. In addition, an average of 18.4% of the remains showed signs of burning. A total of 3631 marine shell remains was analysed, with the majority originating from contexts 1006 and 1242. A total of 1445 specimens (39.8%) could be identified to at least family level. The remains weighed a total of 3096 grams, and represented a MNI of 550. Table 1.9 summarises the data per testpit, showing only the NISP and MNI data.

Twenty-four taxa could be identified, nearly all gastropods. A few taxa make up the bulk of the remains: nerites (mainly *Nerita tessellata*, also *N. versicolor*), West Indian Top Shells (*Cittarium pica*), Tegulas (mainly *Tegula excavata*, also *T.* cf. *fasciata*), and chitons (Chitonidae, primarily *Chiton* sp.). Furthermore, Star Shells (mainly *Astraea tuber*; also *A. caelata*), and Beaded Periwinkles (*Tectarius muricatus*) are also abundant. Moderate numbers were found of: Rock Shells (mainly *Thais rustica*, also *T. deltoidea*), Periwinkle (*Littorina* cf. *nebulosa*), Wide-mouthed Purpura (*Purpura patula*), Queen Conch (*Strombus gigas*), and the Common Caribbean Donax (*Donax denticulatus).* Only occasionally found were: Cerith (*Cerithium* sp.), Reticulated Cowrie Helmet (*Cypraecassis testiculus*), Knobby Keyhole Limpet (*Fissurella nodosa*), Murex (*Murex* cf. *brevifrons*), Milk Moon Shell (*Polinices lacteus*), Atlantic Partridge Tun (*Tonna maculosa*), King Helmet (*Cassis* cf. *tuberosa*), Glossy Dove Shell (*Nitidella nitida*), and the Tiger Lucina (*Codakia* cf. *orbicularis*).

		TP1		TP3		TP8		TP9	
Taxon	**Common name**	**NISP**	***MNI***	**NISP**	***MNI***	**NISP**	***MNI***	**NISP**	***MNI***
Gastropoda									
Fissurella nodosa	Knobby Keyhole Limpet							1	*1*
Fissurella sp.	Keyhole Limpet	1	*1*						
Cittarium pica	West Indian Top Shell	173	*20*	9	*3*	5	*2*	73	*9*
Tegula excavata	Green Tegula	15	*11*			7	*6*	22	*18*
Tegula sp.	Tegula	6	*6*			2	*2*	20	*16*
Astraea caelata	Carved Star Shell							2	*2*
Astraea tuber	Green Star Shell	7	*4*	3	*2*	5	*4*	13	*8*
Astraea sp.	Star Shell	3	*0*	2	*0*	1	*0*	16	*0*
Nerita tessellata	Tessellated Nerite	131	*131*	2	*2*	15	*15*	98	*98*
Nerita versicolor	Four-toothed Nerite	31	*31*			10	*10*	13	*13*
Nerita sp.	Nerite	14	*0*			12	*0*	45	*0*
Littorina sp.	Periwinkle							7	*7*
Tectarius muricatus	Beaded Periwinkle	7	*7*	1	*1*	3	*3*	6	*6*
Cerithium sp.	Cerith	1	*1*						
Strombus gigas	Queen Conch			1	*1*			1	*1*
Strombus sp.	Conch	1	*1*	2	*1*			3	*0*
Polinices lacteus	Milk Moon Shell	1	*1*						
Cypraecassis testiculus	Reticulated Cowrie Helmet	1	*1*					2	*2*
Cassis sp.	Helmet							1	*1*
Tonna maculosa	Atlantic Partridge Tun	1	*1*						
Murex sp.	Murex	1	*1*						
Thais rustica	Rustic Rock Shell	7	*7*			1	*1*	3	*3*
Thais deltoidea	Deltoid Rock Shell	2	*2*					1	*1*
Purpura patula	Wide-mouthed Purpura	2	*2*			1	*1*	2	*2*
Nitidella nitida	Glossy Dove Shell							1	*1*
Bivalvia									
Codakia sp.	Tiger Lucina							6	*1*
Donax denticulatus	Common Caribbean Donax	25	*12*	1	*1*	2	*1*	1	*1*
Polyplacophora									
Chitonidae	Chitons	115	*15*	2	*2*	51	*9*	426	*37*
Unidentified Shell		422	*0*	3	*0*	110	*0*	1651	*0*
Total		**967**	***255***	**25**	***13***	**225**	***54***	**2414**	***228***

Table 1.7 Summary per Testpit of NISP and MNI of the identified taxa

The composition of the testpits appeared very similar. The majority of the taxa were species living primarily on and under rocks at the inter-tidal zone: *Cittarium pica*, *Nerita tessellata*, *N. versicolor*, *Astraea tuber*, *A. caelata*, *Fissurella nodosa, Tegula excavata, T.* cf. *fasciata, Littorina* cf. *nebulosa*, *Tectarius muricatus, Thais rustica, Thais deltoidea, Purpura patula* and Chitonidae. Together, these 14 taxa account for 94.7% of all remains by MNI. Of these, the five most common taxa account together for 78.5% of all remains by MNI: *Nerita tessellata* (44.7%), *Nerita versicolor* (9.8%), Chitonidae (11.5%), *Cittarium pica* (6.2%) and *Tegula excavata* (6.4%).

Donax denticulatus (2.7% of the total MNI) lives in large colonies in sandy beaches at the point where the waves break, where they can easily be scooped out of the sand with a small net. Other taxa that usually can be found in sheltered waters, on shallow sandy bottoms and sea grass beds, are *Polinices lacteus*, *Tonna maculosa*, *Codakia orbicularis*, and the large shells of *Cassis tuberosa* and *Strombus gigas.* Each of these were only sporadically found, suggesting that such environments were not very often exploited. The remaining taxa were only rarely found, and could have been obtained from rocky inshore waters. No shells were found from a mangrove environment.

Discussion

The vast majority of the shellfish consumed could have been obtained from near the Hickman's site. Today, the south-eastern coastline of Nevis is primarily composed of a high-energy rocky shore, where such species as Nerites, Tegulas, West Indian Top Shells, and Chitons are particularly abundant. The same taxa were also most common in the previously analysed assemblage from this site (Kozuch & Wing N.D.). The composition of the marine shellfish assemblage, therefore, probably reflected local availability rather than a cultural choice in species. A similar conclusion was drawn by Kozuch & Wing (N.D.) and Drewett (2000) for their comparable studies of faunal assemblages from different sites on Nevis and Barbados, respectively.

WORKED SHELL AND BONE ARTEFACTS FROM HICKMAN'S (GE-5) SITE

Mark Nokkert

This report focuses on the modified shell and bone artefacts found during the 2000 and 2001 site investigations at the Hickman's (GE-5) site. This is an abridged version of the original reports (Nokkert 2002c,d). fifyy-eight worked or possibly worked objects were found (Table 1.10). Two were made from sea turtle bone, while the other objects were made from shell, the majority out of *Strombus gigas*. Most artefacts can be divided into one of two groups, decorative and functional objects, with additional manufacture waste and a few unidentified objects.

Decorative objects

Beads and bead blanks

Nine small-sized beads had a hole drilled from two sides, resulting in an hour-glass shaped drill. Similar beads are found in most prehistoric sites in the Caribbean, for instance on St. Eustatius (Steen 1992:109) and on Saba (Hoogland 1996:87,88,156). One, larger bead had several shallow triangular-shaped incisions engraved along the circumference. Several similar beads were found on St. Eustatius (Steen 1992:109-110). Another bead was made from a complete *Oliva* shell. Part of its spire was struck off, the columella was removed, and the resulting edge

subsequently polished. Similar beads were also found on St. Eustatius (Steen 1992:98), and St. Martin (Jansen 1999:224). In addition, two bead blanks were found.

Pendants, plaques and inlays

One small-sized pendant, was probably made from *Strombus gigas* shell. A pendant pre-form, made from a *Cypraecassis testiculus* shell, had its apex broken off, with most of the columella taken out, but no further modifications were made. A part of a thin plaque, possibly made from *Strombus gigas* shell, was also found. One elaborately decorated inlay, with several incisions (Fig. 1.15) was made from *Strombus gigas* shell. Its sides and back are covered with a black substance, possibly bitumen. Four inlays were made from mother-of-pearl, probably from an oyster-like bivalve. Two are eye-shaped, one is rectangular, with only a small piece of a fourth. Such objects were originally probably part of figurative wooden pendants, statues or masks. A small semi-circular inlay was made from a piece of the carapace of a sea turtle. Three *Astraea tuber* shells possibly represent the waste of the manufacture of mother-of-pearl inlays. A cut was made in the body whorl, after which part of the body whorl was broken off for use as an inlay.

Testpit	**TP3**		**TP6**	**TP8**			**TP9**			**Surface**	**Total**
Context	**1052**	**1053**	**1103**	**1210**	**1217**	**1221**	**1240**	**1242**	**1246**		
Bead				1			2	7		1	*11*
Bead blank					1				1		*2*
Pendant										1	*1*
Pendant pre-form								1			*1*
Plaque										1	*1*
Mother-of-pearl inlay					1			3			*4*
Other inlay								(1)	1		*2*
Waste of MO-P inlay manufacture		2				1					*3*
Scraper	1							1			*2*
Celt										12	*12*
Celt?			1	1						9	*11*
Chisel										1	*1*
Knife?										1	*1*
Threepointer									1		*1*
Spatula?										1	*1*
Drill?										1	*1*
Fishing lure?										1	*1*
Unidentified								(1)		1	*2*
Total	***1***	***2***	***1***	***2***	***2***	***1***	***2***	***14***	***3***	***2***	***58***

Table 1.8 Types of worked objects, summarised per context. Numbers in brackets are bone objects.

Functional objects

Scrapers

One complete and a part of a scraper (or 'spoon') were found, made from the body whorl of a cowrie shell (*Cyprae zebra*). The complete scraper shows possible use wear traces on one of its shorter edges. Similar scrapers were found in sites on St. Eustatius (Steen 1992:95-96), St. Martin (Brokke 1999:108; Jansen 1999:224) and La Désirade (Waal 1996:128).

Celts, chisel and a knife(?)

12 definite and 11 possible celts, or adzes, made from the thick outer lip of adult specimens of *Strombus gigas*, were found. Several celts show battering of the two long, parallel edges to obtain the desired oval shape. The two long sides of the celts are sometimes further polished to make smooth and straight long edges. In addition, one of the two flat surfaces is sometimes also partly polished where the lip shows natural irregularities. The anterior edge, plus the anterior part of the thinner of the two long sides are often further polished in order to make a suitable working edge. These working edges are usually rounded or slightly tapered. Celts are thought to be 'a multi-purpose tool for cutting and scraping organics and for preparing fish and shellfish (Drewett, *et al.* 2000:105)', and are found in most prehistoric sites in the region. One small part of a chisel, made from *Strombus gigas* shell, has a very sharp and straight working edge due to

polishing of the working edge from two sides. Similar objects were also found on St. Eustatius (Steen 1992:102). One object, made from the thick outer lip of a *Strombus gigas* shell, has the shape of a celt, but one of the long edges has been sharpened, creating a knife-like long blade.

Fig. 1.15 Decorated inlay made from Strombus gigas shell

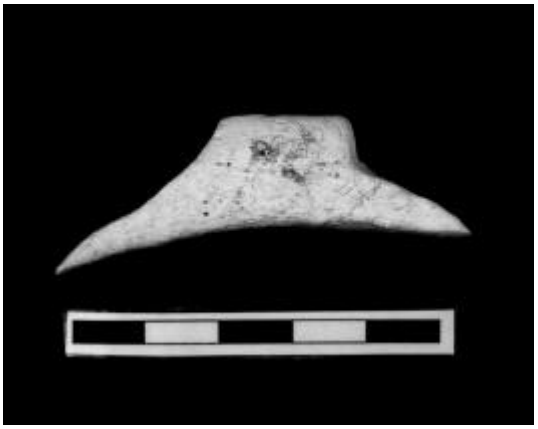

Fig. 1.16 Possible drill of Strombus gigas shell

Fig. 1.17 Possible fishing lure

Fig. 1.18 Polished carapace piece of sea turtle

Drill?

One object (Fig. 1.16), made from *Strombus gigas* shell, is roughly triangular-shaped. The pointed end of the object may have been used as a drill.

Other objects

Threepointer

One small threepointer was made from a *Strombus gigas* spine. Several similar objects were found at the Golden Rock site on St. Eustatius (Steen 1992:104-105).

Spatula?

One object is a small part of a longitudinal object, made from *Strombus gigas* shell. This was originally possibly part of a vomit spatula. A complete, similarly shaped object was found in the Belmont site on Tortola (Hunt & Drewett 2000:134).

Fishing lure?

One object, a possible fishing lure, is an elongated object with a central ridge and four sets of holes drilled at either side of this ridge (Fig. 1.17). Similar objects were found on Saba (Hoogland 1996:87) and Barbados (Drewett 1991).

Unidentified objects
One object, made from part of a *Strombus gigas* spine, has two flat, parallel surfaces. In the centre of the base a conical shaped concavity was created. This was originally possibly a bead blank on which drilling was started from one side, although it could also be a somewhat unusually shaped threepointer. Another, large object, made from a carapace piece of a large-sized sea turtle (Fig. 1.18) contains polished edges, which are slightly bevelled in shape. Its inner surface was ground down until exposure of the cancellous tissue. Especially near the edges of both short sides the inner surface shows further polishing or possible use wear. Similar objects were found on Barbados (Drewett 1991:135,362; Wing 2000:151), St. Martin and St. Eustatius (Nokkert 1999a:120-121). They may perhaps have functioned as a scraper.

Note: We are delighted to announce that Jen Heathcote has just submitted her doctoral thesis to University College London. She is looking forward to providing a major contribution to our future monograph.

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We are grateful to Mr and Mrs Cedric David for allowing us to dig testpits on their land down by the goat pen below Hickman's village – they had faith that our presence would not upset the animals, and for this we are very grateful. We are pleased to see that many survived the drought, and many more kids and lambs have arrived. The Davids were a goldmine of valuable information about the site and the local environment. It is heartening to know that the heritage of Nevis is being cared for so sympathically by landowners such as Mr and Mrs David. We would also like to reiterate our thanks to all those who participated in the fieldwork and subsequent analysis including all of the contributors to this report. Thanks to David Rollinson for organising the making of our great big dry sieve and to Drew Morris, Colin Napier and Easy Manners for making the flotation tank system.

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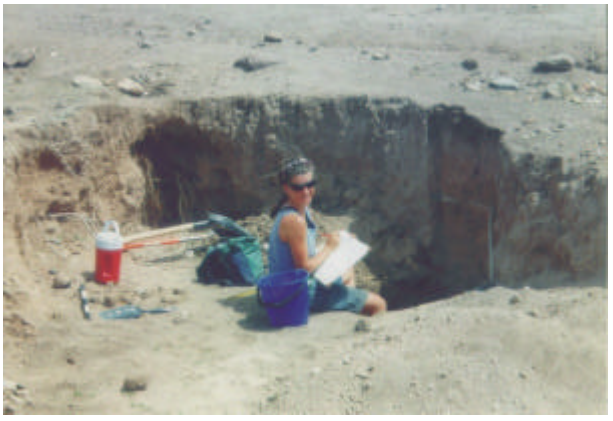
Peter Bellamy, Ben Stuckey, Annie Garvey, Laura Kavanagh, Ed Oakley, Elaine Morris and Andrew Crosby

Lornette Hanley, NHCS Curator of Collections, and her children visiting the excavation at GE-5



Jen Heathcote recording an eroded section at GE-5

Jen Heathcote and Annie Garvey at the flotation tanks

A much needed break!

Fig. 1.19 Photographs of the work at Hickman's

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