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Archaeological Investigations in the Brier Block, Coromandel Harbour

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ABSTRACT

During the development of land for forestry in the hills behind Coromandel Harbour, a large number of Maori sites were uncovered. Shell midden and storage pits were found up to 2.5 km from the harbour. The distribution of sites suggests an inland limit to settlement. Excavations were carried out on three sites. Radiocarbon age estimates indicate the Brier Block was occupied in the sixteenth century, with another period of intensive occupation in the eighteenth century.
Keywords: NEW ZEALAND, COROMANDEL PENINSULA, INLAND SETTLEMENT, STORAGE PITS, SETTLEMENT PATTERNS.

INTRODUCTION

In 1982 and 1983, an investigation programme was carried out on a group of sites in the Brier Block near Coromandel Harbour, on the western side of the Coromandel Peninsula. The investigations were carried out for the New Zealand Forest Service as a condition imposed by the Historic Places Trust for the modification of sites in the block.

The Brier Block encompasses the catchments of the Awakanae Stream and the Opu Creek and is located in the hills bordering the western side of the Coromandel Range (Fig. 1). The forest block lies between 0.6 and 3 km inland, reaching a height of about 300 m above sea level. Major ridges separating water catchments commence near the coastal flat adjacent to the Coromandel Harbour and continue for up to 2 km inland. The majority of the sites occur on these ridges and side spurs (Fig. 2).

GEOLOGY AND SOILS

Geologically, this landscape, like most of the Coromandel Peninsula, is volcanic in origin. Breccia, tuff and minor flows of andesitic lava constitute the parent rock which weathers to form brown granular clays with friable clay loam topsoils (Gibbs 1980: 40). A deep mottled interface, resulting from worm and root action, is present between the topsoil and the clay.

In the valley floors, particularly in the lower part of the block, there are alluvial soils which would have been more suitable for cultivation than the heavy clay soils on the ridges. Additives to the soil have been found both on the valley floor, where gravel has been included, and on the ridge, where shell has been incorporated into the topsoil.

THE SITE SURVEY

An archaeological survey of the Brier Block was carried out in 1978 by J. Coster and G. Johnston after vegetation burn-off and before the planting of *Pinus radiata*. The method of land preparation, with total vegetation removal, created unusually good visibility conditions for site surveying.

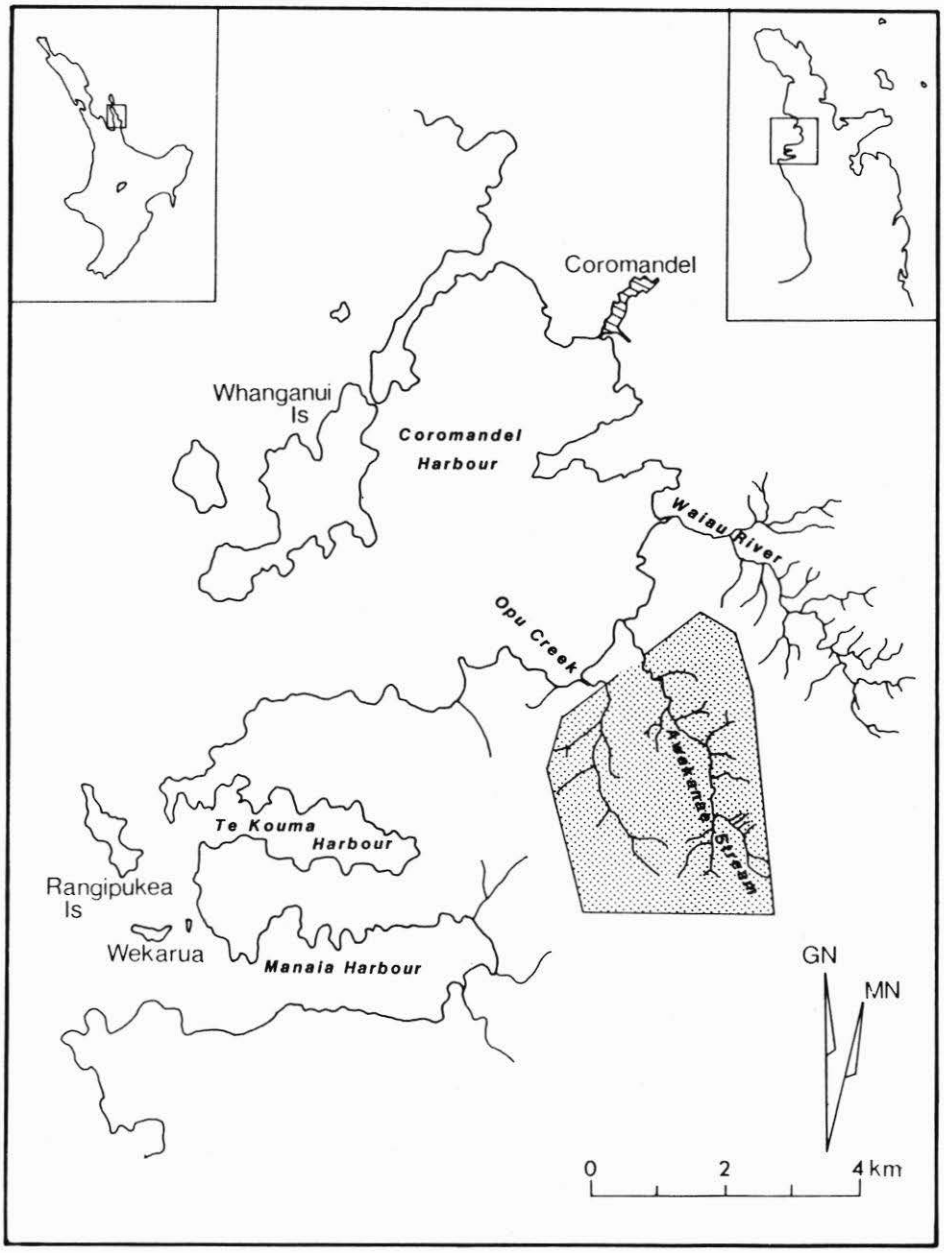

Figure 1: Location map showing Coromandel Harbour and the Brier Block.

Seventy-six small, undefended Maori sites were recorded. Ninety-five percent contained shell midden, although this often consisted only of a scatter of shell on a steep hillside. The sites occurred up to 2.5 km from the coast with a rapid decrease in number at about 2 km (Coster and Johnston 1979).

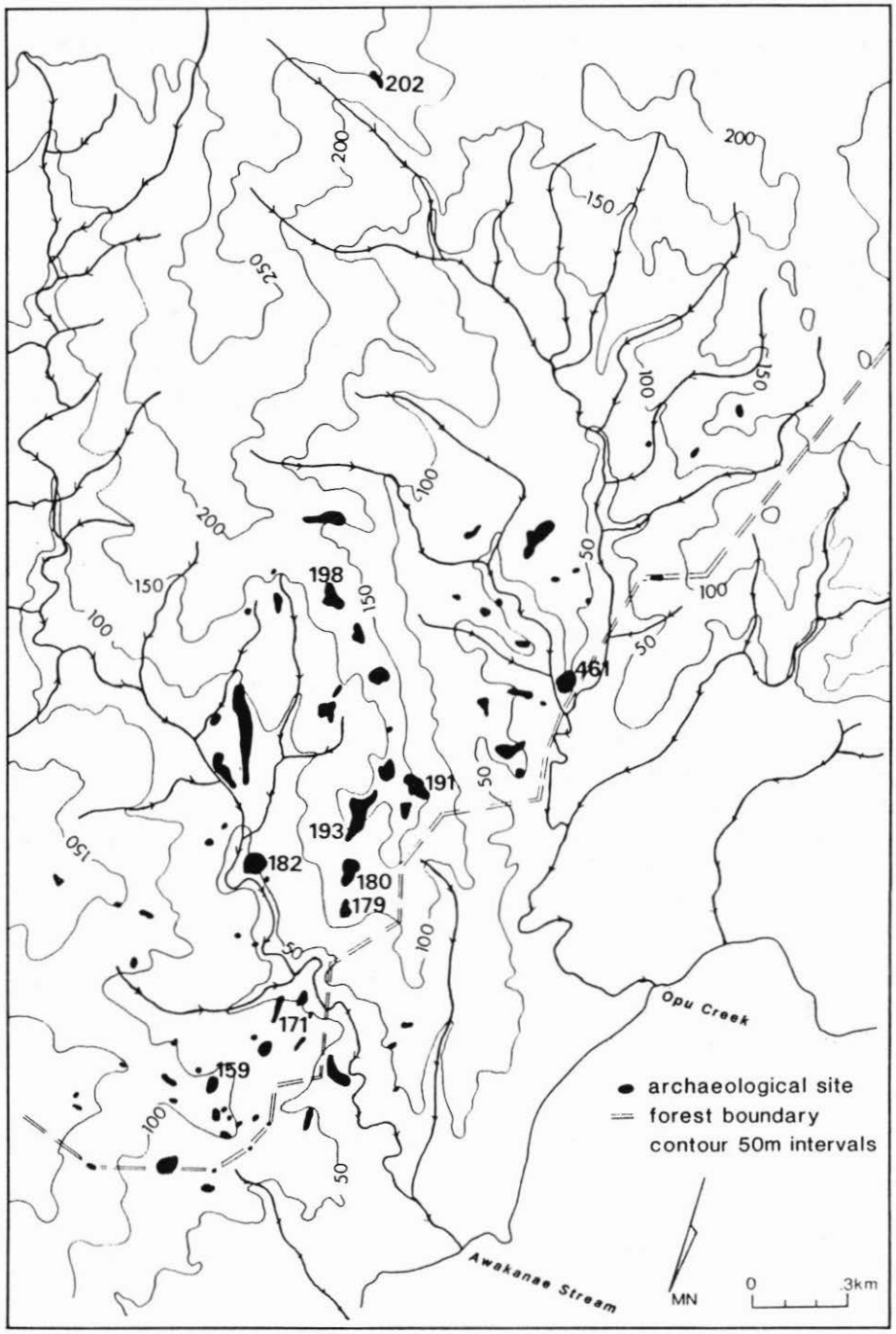

Figure 2: Distribution of sites in the Brier Block.

RESEARCH PROPOSAL

The investigation provided an opportunity to work in an archaeologically unknown area. It was also an opportunity to study a microcosm of the cultural landscape, encompassing sites from near the coast to over 2 km inland at a range of heights above sea level. Few projects in salvage or rescue archaeology in New Zealand have provided the chance to look at a number of sites in a restricted, topographically defined, area.

The sites in the Brier Block were from surface indications typical of the sites located anywhere around the coast on the Coromandel Peninsula (Furey 1980; Law 1982: 50). Although the most common type of settlement evidence (Irwin 1985; Green n.d.), the group of site types consisting of shell midden, terraces and storage pits and broadly defined as open settlements, are under-investigated both on the Peninsula and elsewhere. Excavation of some of the sites in the Brier Block would contribute to redressing the balance and expand our data base on small undefended sites, allowing comparison on an inter- and intra-regional level.

The questions asked of the data were general, given that no previous excavations had been carried out in the vicinity of Coromandel Harbour. The primary aim, therefore, was to describe and define the physical characteristics of the settlement sites themselves and establish the time depth of occupation in the study area.

A comparison of the site distribution data from the Brier Block with those from other site surveys carried out on the Coromandel Peninsula suggested the pattern in this area was unusual. Generally speaking, occupation on the Peninsula appears to have been coastally oriented, although in the major river valleys, sites occur up to 7 km inland (e.g., Diamond 1979). In these riverine situations, the waterway appears to have acted as the focus, and evidence of occupation is found primarily on hillslopes close to the rivers. A number of surveys carried out on the eastern coast of the Peninsula in hill country behind the coastal fringe, where no sites were found, reinforces this pattern of a coastal concentration to settlement (e.g., Coster and Johnston 1975). The investigations in the Brier Block were therefore an opportunity to examine what appeared to be an anomaly in the pattern of site distribution for the Coromandel Peninsula.

The project was carried out in two stages. In the first, sites from a variety of geographic positions were tested and shell midden samples taken. These samples were analysed for information on types and relative proportions of each shellfish species present. Landsnails were also extracted and shell samples submitted for radiocarbon dating. This was to provide information about types and ages of sites, on the basis of which a few sites could be chosen for excavation. Landsnails were to assist in reconstruction of the vegetation cover of sites at the time of occupation.

The selection of the sites for sampling was biased to some extent in favour of the larger sites. An interval of four years between the site survey and Stage I of the investigations meant smaller sites were unable to be relocated under the dense vegetation growth.

In Stage II, excavation was carried out on three sites. Questions relating to the permanency of occupation, intensity of occupation, and the nature of the individual settlements were asked of the data.

THE INVESTIGATIONS

STAGE I

A total of 12 sites were sampled (N43/461 and 466, N44/159, 166, 167, 171, 179, 180, 182, 191, 193 and 202), covering the full range of altitude and distance from the coast.

The results of the midden analysis indicated that cockle (*Chione (Austrovenus) stutchburyi*) was the dominant shellfish species present, followed by pipi (*Paphies australis*). Other species present in smaller numbers were speckled whelk (*Cominella adspersa*), mudsnail (*Amphibola crenata*), cat's eye (*Turbo smaragdus*), *Cominella virgata, Venerupis (Paphirus) largillierti, Gari stangeri* and *Alcithoe arabica*. Species found in the middens but considered to be too small to have been collected for their food value were *Zeacumantus lutulentus, Diloma (Fractarmilla) subrostrata subrostrata, Penion sulcatus (adustus)*, barnacle and chiton. Very little bone was found in the samples, and the fragments were not identifiable.

STAGE II

Stage II was carried out over three weeks in April 1983. Three sites (N44/182, 191 and 198) were selected for further investigation on the basis of their location within the study area and also on the results of Stage I. The excavations are reported in detail in Furey (1986).

N44/182 (T11/210)

The site (T11 grid reference 341 848) was the only one of its type in the Brier Block. It was situated in the Awakanae Stream Valley on a low, north-facing spur immediately above the stream. The site consisted of four large and distinct stone heaps, and several other smaller stone heaps, a shallow channel approximately 15 m long and 800 mm wide running down the slope, and a shell midden at the lower end of the site (Fig. 3). The midden contained a high proportion of mudsnail, which made it unusual when compared to the other sites from which shell samples were analysed. Two level areas, both with boulders protruding through the back scarps, were tested. On each, there was no apparent cultural modification to the subsoil. A trench was also placed across the channel feature in an attempt to clarify its function. The form of the excavated channel was, however, inconclusive, and the possibility that it was natural cannot be ruled out.

The midden, which consisted of shell, blackened rhyolitic rocks, and large fragments of charcoal, formed a lens within a black soil matrix. No evidence of firescoops or the source of the blackened soil were found.

The shell midden and general blackening of soil from fires indicate that food was prepared on the site but the midden, because of its mixed nature, is likely to be a secondary deposit. This view is reinforced by the fact that no cooking areas were found adjacent to, or within, the midden.

The stone heaps were not investigated. It is unlikely that they were the result of clearing large stones from the soil, as stones similar in size to those present in the heaps were found protruding through the topsoil. General testing of the soil with a spade and auger revealed no conclusive evidence of modification to the natural soil profile. In fact, the thin depth of topsoil (less than 100 mm) would suggest the soil profile had not been disturbed.

A radiocarbon date on cockle shells indicated that the midden was less than 250 years old (NZ 6159). While this may place the site in the late pre-European period, it does not preclude occupation after European settlement of the area. It can be argued on negative

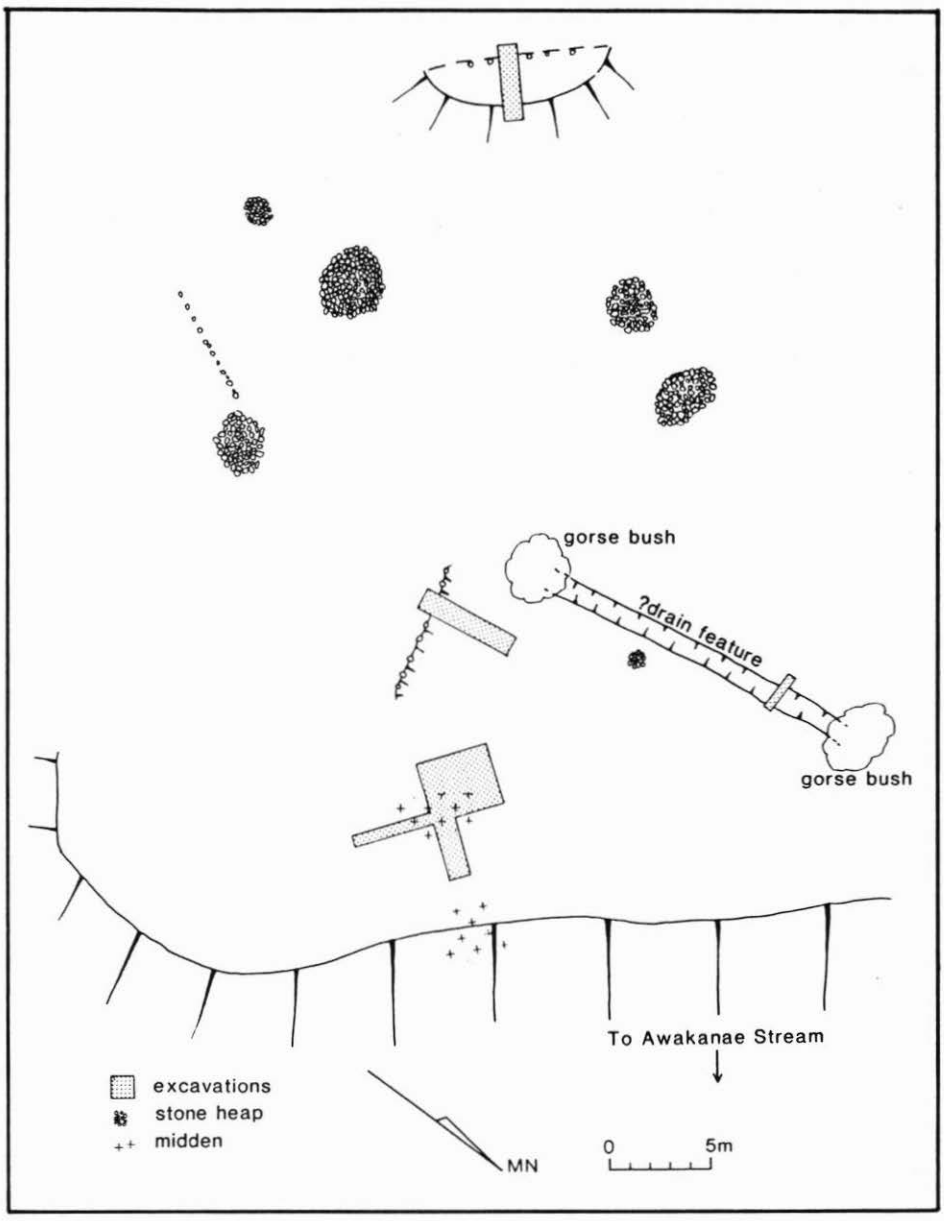

Figure 3: Site plan, N44/182, showing the area excavated.

evidence that the site was occupied before there was extensive contact with Europeans, as there was an absence of material such as glass or ceramics.

N44/191 (T11/219)

This site (T11 grid reference 336 845) was one of the largest in the forest block and was situated in a prominent position at the junction of two ridges. Surface evidence consisted

of three terraces, several shallow depressions and shell midden (Fig. 4).

Seven storage pits were partially or fully uncovered, and probably represent several periods of occupation on the site. A group of three contemporary pits were identified (Area C). They were on the same alignment and equi-distant.

Drainage systems within the pits were varied and consisted of internal floor drains, slit drains through the pit wall, and shallow sumps (see Fig. 6). External drains were also present in two instances, diverting water away from the pits.

The storage pits had a variety of fills. Some had evidently been left open after they ceased to be used. These pits had a weathered clay layer in the base, possibly formed by an earth- covered roof collapsing into the pit. Postholes, devoid of fill, were present under the lower fill layer in two pits, suggesting that the posts rotted after the infilling process had commenced. The pits were later deliberately backfilled. Other pits had a homogeneous clean fill, similar to that which would have been dug out during pit construction. From this it is inferred that pit construction and infilling of abandoned pits occurred simultaneously. One pit, in Area B, was partly infilled, then the depression used for cooking. Numerous small firescoops filled with charcoal and stones could be identified in the mixed layer of crushed and burnt shell, charcoal and burnt stones which filled the pit. Another pit, in Area C, had been filled with clean shells.

The pits were located on the slope, although two were on a natural terrace formed by a slump of the land surface at the lower end of the site. The infilled surface of the pits had, in several instances, been re-used. A small firescoop above the fill of the storage pit in Area D was possibly associated with a small dwelling, although this was not explored further during the excavation. Similarly, a compacted surface above a storage pit fill in Area C, together with obsidian flakes, again suggests an occupation surface associated with a dwelling.

The outlines of the storage pits were traced without difficulty. In most instances the pits were cut into the underlying tuff, a consolidated material with poor drainage properties.

The level area at the top of the slope was tested for evidence of occupation. Concentrations of stone and obsidian flakes were found in some excavated squares, but little associated evidence was present. A thin, rectangular-shaped deposit of crushed shell was uncovered. This had a level surface and was of variable thickness, filling hollows in the underlying ground surface. It is likely the shell was a secondary deposit, rather than an *in situ* shell dump. Obsidian flakes were present on the surface of the layer.

A well-defined and level shell layer could be interpreted as a house floor or an activity surface, particularly with the added evidence of obsidian flakes. A perusal of the literature reveals that shell has not previously been identified as forming a house floor, although at Ruarangi Pa, Hougaard (1971: 13) tentatively suggested shell may have been deliberately laid under the clay floor of a house to provide better drainage.

Postholes, or stakeholes, were not found anywhere in the excavation outside of the pits. This lack of postholes could be accounted for in two ways: the mottled nature of the clay made posthole detection difficult, and large postholes, which probably would have been found, were not necessary in the construction of small temporary dwellings. The explanation for the lack of postholes probably lies somewhere between the two, and postholes with a small diameter, or stakeholes, were not visible in the clay subsoil.

It was expected that houses, either of the more permanent type, or temporary structures, would be present on the site. Large quantities of shell midden, cooking areas and stone working activities constitute components of what Groube (1965: 9) called the domestic

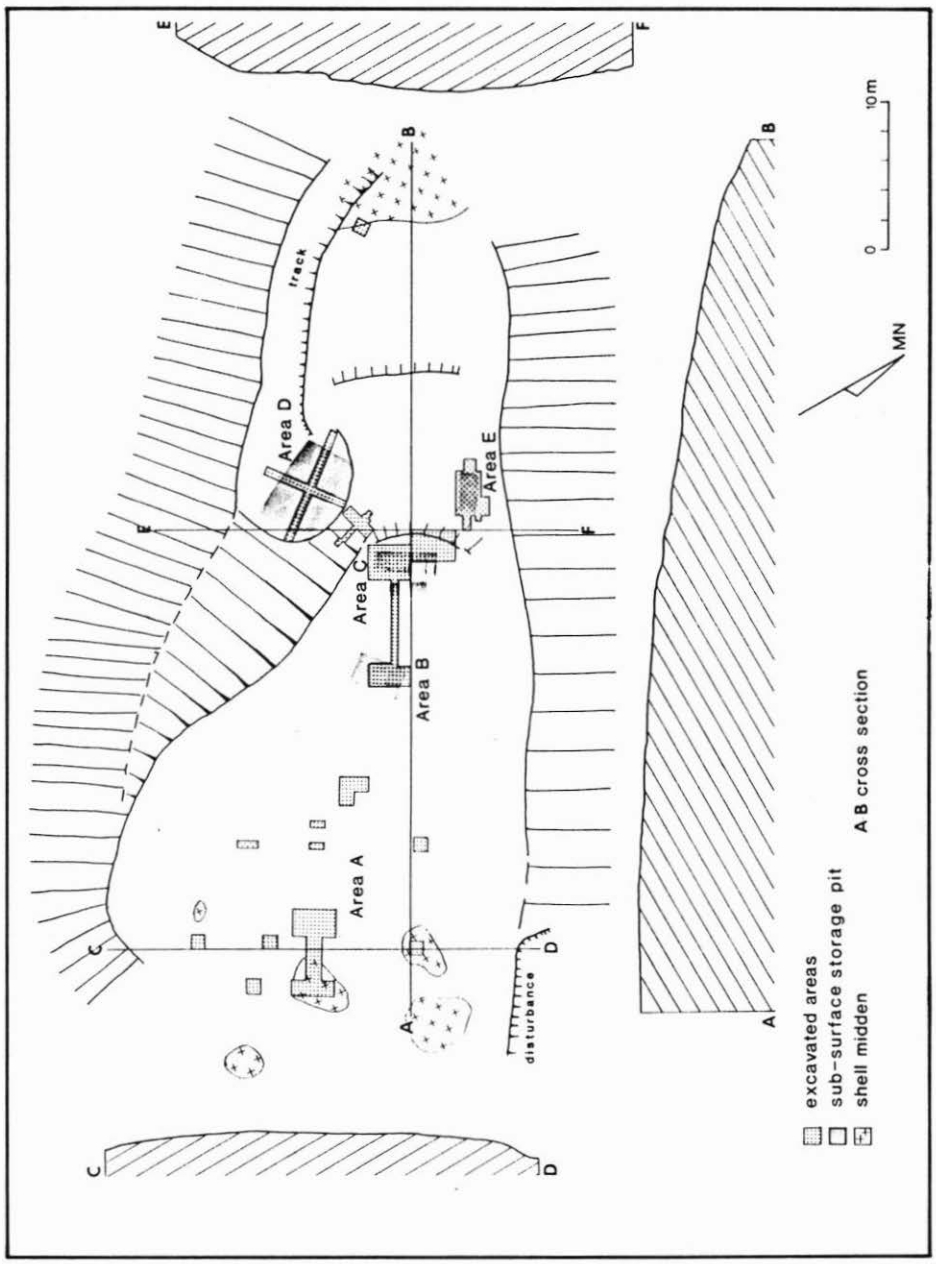

Figure 4: Site plan, N44/191, showing the area excavated and storage pits.

unit. Houses or dwellings are an important component contributing to this definition. However, while structural evidence for shelters or houses was not found on the site, other evidence contributes to the view that people lived or camped there.

In the Brier Block, shell midden occurs on 83 percent of the sites which contain pits. This suggests the sites are camps, with food storage a feature of the settlement. Other activities such as cooking, stone flaking and dwellings or, as the evidence suggests, temporary shelters, complete the domestic scene.

On stratigraphic grounds, there were at least two occupations on the site but there are likely to have been more. The number of occupations, or the contemporaneity of individual features, cannot be established. Samples submitted for radiocarbon dating indicate three separate, widely spaced periods of activity (see Table 2), which can give a minimum or maximum age for several features.

N44/198 (T11/226)

Situated 600 m further inland on the same ridge as N44/191, this site (T11 grid reference 339 841) had shell midden, storage pits and several terraces. It was smaller in size than N44/191 and was confined to the top of a prominent knoll on the ridge top (Fig. 5).

Six storage pits were well-defined on the surface. Shell midden was exposed in a road scarp on the south-western side of the site, below a level area. Several terraces and shell midden, now under pine trees, are present on the north-western slopes of the knoll.

N44/198 was selected for excavation for several reasons. The site was relatively small in size and had well-defined surface features. The presence of pit depressions on the surface contrasted with the evidence from N44/191, where all the pits had been infilled before the last occupation.

Multiple occupation of this site is suggested by the terrace excavations. At the eastern end of the terrace, a cooking area, consisting of firescoops filled with charcoal and small stones, was situated on the fill of a storage pit (Fig. 5, Area B). At the opposite end of the terrace, a compacted surface, assumed to be contemporary with the cooking area, was also situated above an infilled pit (Area C). A stakehole originating from the compacted surface was excavated.

A second level area to the west of the terrace was also excavated (Fig. 5, Area A). Here a smooth clay surface abutted a "gritty" clay containing small gravel-like chips of stone. Obsidian and chert flakes were distributed on the "gritty" clay but not on the smooth-textured clay. Along one side, a slight ridge separated the two types of clay. It is likely that a corner of the foundation of a dwelling was uncovered. However, there were no postholes to substantiate this interpretation.

The corner of a storage pit close to the edge of the slope (Fig. 5, Area D) was also excavated to investigate the drainage system in the base of the pit. There was a U-shaped floor drain on the southern and eastern sides of the pit (Fig. 6a). A shallow secondary channel by-passed the main drain in the south-east corner. There was no drain on the northern side, but this would appear to have been unnecessary, as surface water from the roof would drain away on to the outer slope. The main drain fed into a sump. A slit drain was present in the north-east corner, leading from the sump, through the pit wall, to the outer slope. The exit of the slit drain was not located but the total length of the feature is likely to be approximately one metre.

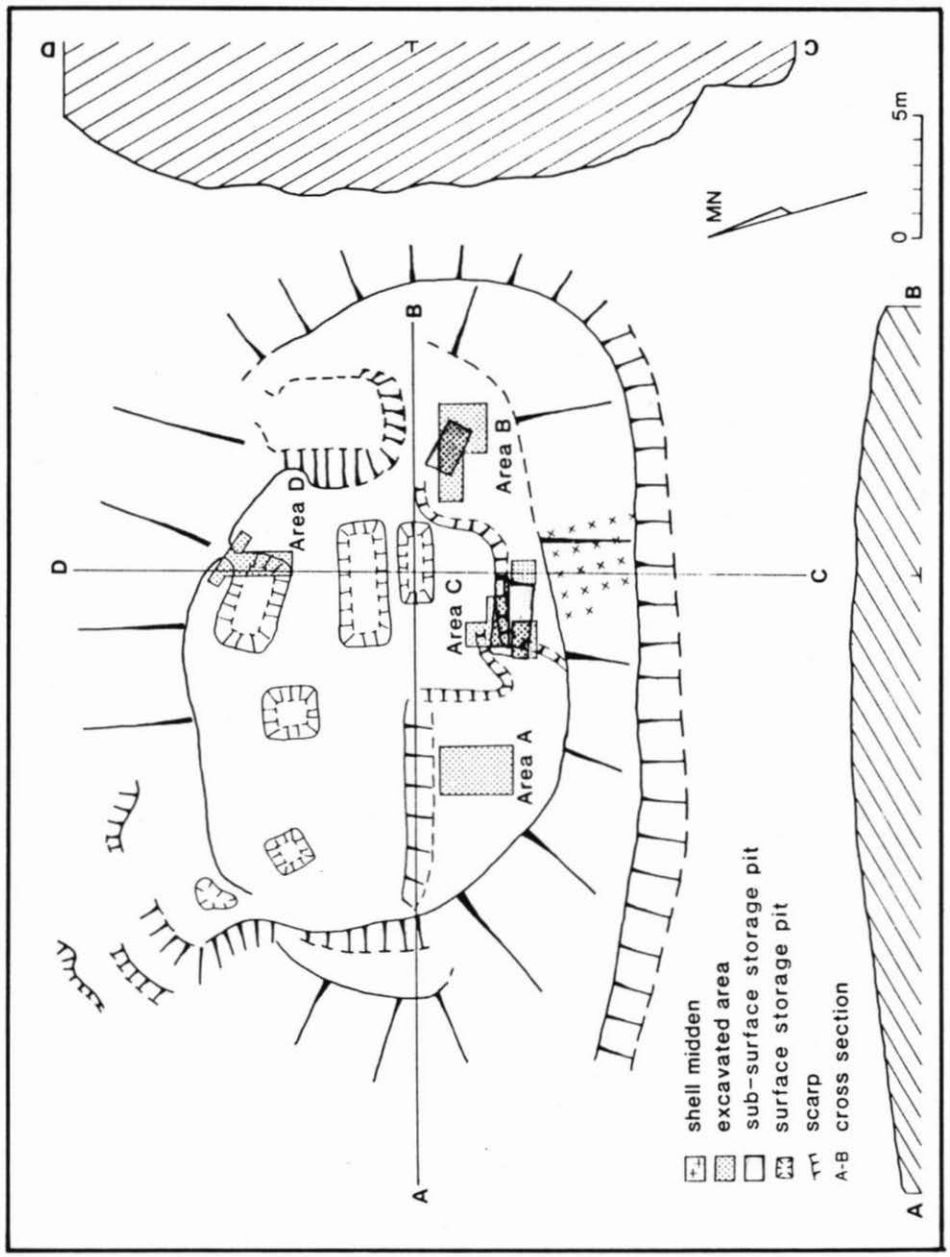

Figure 5: Site plan, N44/198, showing the area excavated and storage pits.

The pit has what was probably a water-deposited clay layer immediately above the floor. This was subsequently covered by a mixed fill of clay and tuff similar to that dug out of a pit during construction.

This site was similar to N44/191 in that it contained storage pits, shell midden and possible evidence for dwellings. In the first occupation, the terrace was used for storage, while during later use a possible hut or shelter was erected at the western end, and the eastern end functioned as a cooking area.

Storage Pits

The pits on N44/191 and 198 can most probably be interpreted as food storage pits. Ten pits were partly or fully excavated and a length-to-width proportion of about 2:1 was consistent in most of the pits (Table 1 and Fig. 6).

TABLE 1
SUMMARY OF INFORMATION FROM EXCAVATED PITS

Site	Size (m)	Depth (m)	Postholes	Drain	Sump	Slit
N44/191	3.5* × 1.9*	.65	3	x	?	?
	3.6 × 1.8	.70	5	–	–	x
	? × ?	.90	?	x	?	?
	2.8* × 1.4	.50	?	x	?	?
	5.3 × 3.2	1.10	?	x	?	?
	2.4 × 1.25	.40	3	x	x	–
	? × ?	.30	?	x	?	?
N44/198	2.5* × 1.2*	.40	3	–	?	?
	3.1* × 1.6	.70	?	–	?	?
	4.0* × 1.35	.50	3	x	x	x

x = present; – = absent; ? = unknown; * = estimated

Drainage systems to remove excess water were present within the pits. Three types can be identified: a combination of floor drain, sump and slit through the pit wall; floor drain and sump; and a slit. In addition, two pits on N44/191 had evidence of external drainage channels to divert surface water away from the pit.

The wall-slit type of drainage has been encountered on sites in the wider Auckland region, including Motutapu Island (Davidson 1970b), Taniwha Pa (Law and Green 1972), Sarah's Gully (Golson 1959: 15) and Great Barrier Island (Law 1972). These sites vary in age from the fourteenth century through to the eighteenth century. The common factor is that they are all situated on heavy clay subsoils with poor drainage.

Several periods of pit building are evident on both N44/191 and 198. Some had homogeneous fill and were evidently filled in soon after they ceased to be used for storage. Construction of new pits and infilling of old pits may have occurred simultaneously. Other pits were left for some time before being backfilled.

Contemporaneous use of pits is suggested by the alignment and even spacing of three pits on N44/191 (Fig. 4, Area C). Similarly,it is inferred that two pits at opposite ends of a terrace on N44/198 were utilised at the same time (Fig. 5, Areas B and C).

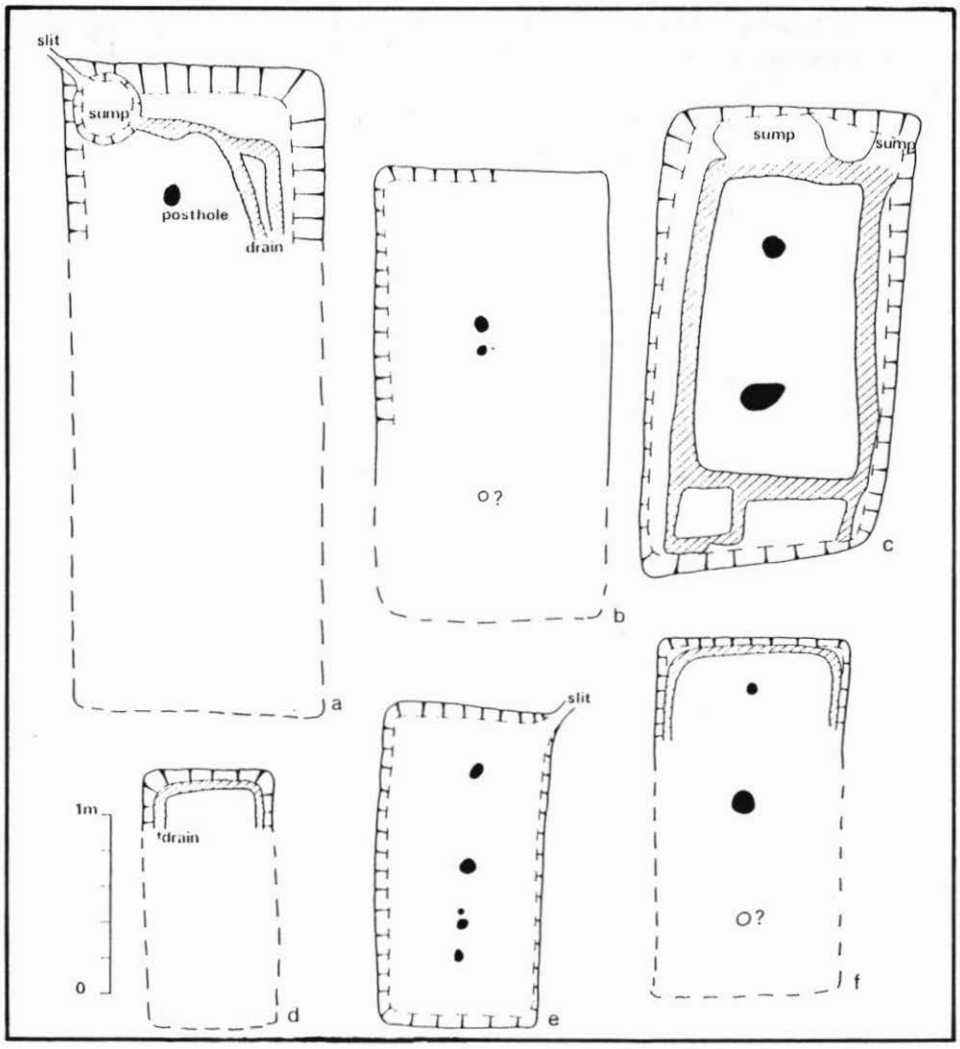

Figure 6: Storage pit plans. a–b, N44/198. c–f, N44/191.

DATING

Cockle shell samples from six sites were submitted for radiocarbon dating at the completion of Stage I. Three shell samples from controlled stratigraphic contexts on N44/191 were submitted after the Stage II excavations. The sample from Area A dated the shells on the presumed house floor or activity surface; that from Area B dated the use of the hangi, while the sample from Area C post-dated the use of the storage pit. The sample from N44/198 was also shell. The results are presented in Table 2.

The radiocarbon age estimates indicate that the Brier Block was settled from the sixteenth century through to the post-contact period in the nineteenth century. Although three of the general samples produced age estimates of less than 250 years, in the case of N44/159 and 182, nothing which might have placed them conclusively in the post-contact period was

TABLE 2
RADIOCARBON AGE ESTIMATES (YEARS B.P.)

Site	Lab. No.	Old $T\frac{1}{2}$	New $T\frac{1}{2}$
N44/159	NZ 6161	< 250	< 250
N44/171	NZ 6162	316 ± 58	325 ± 59
N44/180	NZ 6157	312 ± 57	321 ± 59
N44/182	NZ 6159	< 250	< 250
N44/191	NZ 6158	391 ± 58	403 ± 59
N44/202	NZ 6160	< 250	< 250
EXCAVATED SAMPLES			
N44/191			
Area A	NZ 7044	< 250	< 250
Area B	NZ 5982	290 ± 50	300 ± 55
Area C	NZ 7025	390 ± 30	400 ± 30
N44/198			
	NZ 7219	420 ± 50	430 ± 55

noted on or near the sites. In contrast, bottle glass was recovered from N44/202 during the site survey, suggesting occupation after European contact. The location of this site, further inland and at a higher altitude than any other site, also suggests it is not part of the pre-European settlement pattern.

Dates from single samples should normally be treated with caution. However, as all the dates cluster into two periods: early to mid-sixteenth century, and eighteenth century, they may be regarded as acceptable.

The dates from N44/191 indicate the site was occupied a number of times over a period of several hundred years. The shell deposit in Area A, although producing a date of less than 250 years, would probably have been laid down around the eighteenth century or early nineteenth century, before extensive European contact on this part of the Coromandel Peninsula.

With these radiocarbon age estimates it is possible to make some suggestions about the time depth for settlement on the west coast of the Coromandel Peninsula.

To date, sites of the early settlement period have not been documented archaeologically from the west side of the Coromandel Peninsula. By contrast, the artefact-rich and very distinctive Archaic beach middens are known from numerous locations on the eastern coast. These sites date from the twelfth century through to the mid-fifteenth century (Law 1982: 54). However, artefacts similar to those present in the early sites of the east coast have been found at some locations on the western coast, and at Oruarangi Pa on the Waihou River, where initial occupation has been dated to around A.D. 1500 (Best 1980: 78). By inference, the western side of the Coromandel Peninsula was also occupied in the early period of settlement. This is indirectly reinforced by the evidence from the Brier Block. Occupation of sites more than one kilometre into the hills near Coromandel Harbour by the early sixteenth century suggests that the coastal margins were occupied at an earlier date, possibly much earlier, and certainly within a time period which would overlap with some of the Archaic sites on the eastern coast.

The evidence from several excavated sites on the Coromandel Peninsula and elsewhere

has demonstrated that occupation in the early period is represented by more than the distinctive beach middens. Skippers Ridge (N40/7) at Opito, for example, with a date of 807 ± 57 B.P. (Law 1982: 54), had no typical Archaic attributes but is one of the oldest known sites on the Peninsula. Similarly, the open settlement site at Maioro in South Auckland can also be assigned, on the basis of a radiocarbon date, to the early period, although there were no characteristic Archaic artefacts or features (Fox and Green 1982, Green 1983). The fact that some early sites have features such as pits in common with later sites suggests the visual identification of many early sites is difficult. It is therefore not easy to dismiss an early settlement of the coastal margins on the western side of the Peninsula without an extensive programme of excavation and dating.

It has been suggested the Coromandel Archaic is only one aspect of the early East Polynesian Maori culture (Davidson 1975, Law 1982: 56). Selective excavation of coastal sites on the west coast of the Coromandel Peninsula could help to clarify the pattern of settlement on the Peninsula in the early period.

VEGETATION RECONSTRUCTION

Landsnails were extracted from shell middens in order to reconstruct past vegetation conditions. This technique has also been used on sites in the Wairarapa (Wallace 1979), and on the Chatham Islands (Wallace 1977).

Individual landsnail species are moisture-specific and have a low tolerance to change in the local environment. These habitats can be divided into three broad categories related to the amount of moisture present in each type of habitat: dense bush with deep, damp leaf litter; drier conditions in a disturbed or more open bush situation; and light scrub or grassland (Solem, Climo and Roscoe 1981). Species can tolerate environmental conditions with more moisture than their preferred habitat, but species of the dense or disturbed forest cannot tolerate drier conditions. Generally the bush environment has the largest number of snail species, the diversity decreasing in light bush and further again in grassland.

The landsnails were extracted by flotation techniques to avoid any bias towards the larger-sized species which could be found during midden sorting.

Very few species indicative of heavy bush were present in the samples. However, the presence of species such as *Huonodon hectori*, *Charopa chrysaugeia* and *Charopa (G.) microrhina* all indicate there was bush near N44/159, 165, 171 and 193. It is also likely there was disturbed, or more open, bush near N44/179 and 180 (Table 3).

Landsnails were also extracted from the midden filling a pit on N44/191. Twelve specimens were identified: *Mocella prestoni* (2), *Paralaoma caputspinulae* (7), *Mocella eta* (3). All of these species are tolerant to drier conditions. This suggests the vegetation in the vicinity of the site at the time of the pit infilling may have been light scrub with little leaf litter. No landsnails were recovered from the midden on N44/182. It is likely there was no suitable vegetation in the vicinity of the site during the time the midden was deposited.

The landsnail evidence suggests bush was present in the vicinity of some sites at the time of occupation, or alternatively that sites were located on the forest or bush periphery.

Charcoal from the hangi and fireplace in N44/191 indicated that small branches or stems from hardwood and softwood shrub species were used.

In the 1850s, the bushline was less than one kilometre from the harbour (Heaphy 1852). A map by Captain Downie of the ship H.M.S. *Coromandel* shows "thickly wooded hills" behind Coromandel Harbour in 1820 and an unforested coastal margin. In contrast to

TABLE 3
OCCURRENCE OF LANDSNAIL SPECIES BY PERCENTAGE IN EACH SITE

	N44/ 159	N44/ 165	N44/ 166	N44/ 171	N44/ 176	N44/ 179	N44/ 180	N44/ 190	N44/ 191	N44/ 193	N44/ 202	N43/ 461
BUSH												
Charopa bianca		4.7										
Therasiella serrata				2								
Huonodon hectori				2								
Charopa chrysaugeia	.6									3.3		
Charopa (G.) microrhina	.6											
Punctid N. Sp. 1				4								
Therasia traversi							.4					
Phrixgnathus serratocostatus										1.1		
DISTURBED BUSH												
'Mocella' 1	1.96		50				1.2		4.3			
'Mocella' 4						10	1.2		8.7	12.2	26.2	
Charopa buccinella	5.2					2.5	1.5			6.6		100
Delos coresia	.6	14.2		10		.8	3.5			2.2		
Fectola infecta						.8	4.3			2.2	6.6	
Omphalorissa purchasi						12.5	16.5		4.3	17.7		
Laoma marina							.4					
Therasiella neozelanica						.8	1.2					
Huonodon pseudoleioda				4			1.5			2.2		
Punctid conella	.6						.7			1.1		
Punctid sp.?							.4					
Pasmaditta jungermanniae							.4					
Suteria ide										1.1		
Cavellia reeftonensis						1.6						
Liarea egea	.6											
Laoma poecilostiota				28		.8						
Phrixgnathus ariel				2								
Therasiella tamora						.8						
LIGHT SCRUB												
Mocella prestoni	11.1	19		2	100		.4		4.3	2.2	20	
Paralaoma caputspinulae	30.7					35	20.8		17.4	13.3	26.6	
Mocella eta	34	38	50	46		23.3	38.5	100	56.5	41		
'Mocella' 3	1.9	24					1.9		4.3		13.3	
Paralaoma lateumbilicata	10.4					3.3	1.9					
Punctid N. Sp. 29	1.3					1.6	1.9					
Tornatellinops novoseelandica						2.5						
Phenacohelix giveni						2.5	.7					
Kehuperu gelidaformis N. Sp.						1						
Total	99.5	99.9	100	100	100	99.8	99.3	100	99.8	99.6	99.7	100
Total No. of Landsnails	153	21	2	50	4	120	254	1	23	90	15	1

this description of Coromandel Harbour, "fern" is used to describe the vegetation around Manaia Harbour to the south (Maling 1969).

SETTLEMENT PATTERN

Few sites in the Brier Block are found more than 1.5 to 2 km from the coast. N44/202, the site furthest inland (2.5 km), appears from both surface evidence and radiocarbon age estimates to have been occupied in the nineteenth century, and can thus be discounted in reviewing pre-contact Maori settlement patterns.

The sites are not uniformly distributed across the landscape. For example, there are few sites on the south side of the Opu Creek when compared with the ridge system between the

Awakanae Stream and the Opu Creek. This uneven site distribution is also evident on the land between the coast and the Brier Block.

The ridge on which N44/191 and 198 are situated (between the Awakanae Stream and the Opu Creek) originates near the harbour and continues for approximately 2 km inland into the high country. The larger sites and the greatest density of occupation evidence is found on this ridge system. To the south of the Opu Creek there is no well-defined ridge leading into the Coromandel Range, and the site density is very low. Thus there appears to be some correlation between ease of accessibility from the coast to the interior, and the distribution of sites.

The density of archaeological sites around Coromandel Harbour suggests it was a favoured place supporting a large population. A reconnaissance of the land on the seaward side of the forest block, between the Waiau River and the Opu Creek, indicated an extremely high density of sites (Fig. 7). Midden, storage pits and terraces were present in various combinations. Some of the larger sites could be interpreted as villages. Garden areas could also be tentatively identified from soil profiles and from the presence of stone heaps. Pa are situated at the mouths of the major streams or rivers. None, however, are known from the inland zone.

When comparing the distribution of sites in the Brier Block with those from intensively surveyed areas on the remainder of the Peninsula, it is evident this area is to some degree unique. Site surveys carried out in the Otanguru Block, inland of Whangapoua Harbour on the eastern side of the Peninsula, demonstrated that Maori occupation extended at least 2.5 km up the Owera River valley, but on the steep divide ridge between the Owera and Otanguru Valleys, the sites were clustered closer to the coast. There were also far fewer archaeological features on the landscape compared to the Brier Block (Coster and Johnston 1980: 5). This pattern is repeated elsewhere. For example, in the Darkie Stream area, north of Colville, the inland limit for archaeological sites was about 800 m from the coast (Diamond 1967).

The question arises of why were people living in an inland area, in a zone with relatively poor soils generally unsuitable for gardens. Although small pockets of good soil suitable for gardens do occur, they would not provide enough food to sustain even a small population for the winter period. The storage pits, however, do suggest that a quantity of vegetable food was stored in the area and the only possible explanation is that kumara grown closer to the coast was brought into the Brier Block for storage. This, together with a reconstructed landscape of bush, and sites on the fringes of disturbed bush, suggests the area was used for a particular purpose.

European accounts from the early nineteenth century provide some clues on the use of the inland zone. In 1820, when Marsden visited the harbour aboard H.M.S. *Coromandel*, the pa were in ruins after an attack by Ngapuhi and the area was uninhabited (Elder 1932: 253). Later the same year, Cruise also visited and described the people, who had returned in the intervening period.

> The size, the novelty, and the apparent protection of the Coromandel, brought the people from their more inland habitations whither they had long since been driven; but various circumstances afforded reason to suppose that they anticipated their banishment thither at a future period. They did not cultivate any ground, they dwelt in mere temporary huts, and had laid in an immense quantity of dried mussels and fish, which at present formed their only sustenance (Cruise 1957: 147).

This suggests that the interior in the 1820s was used as a safe area or sanctuary. A similar response may have been evident in earlier times. Traditions indicate that the western side of

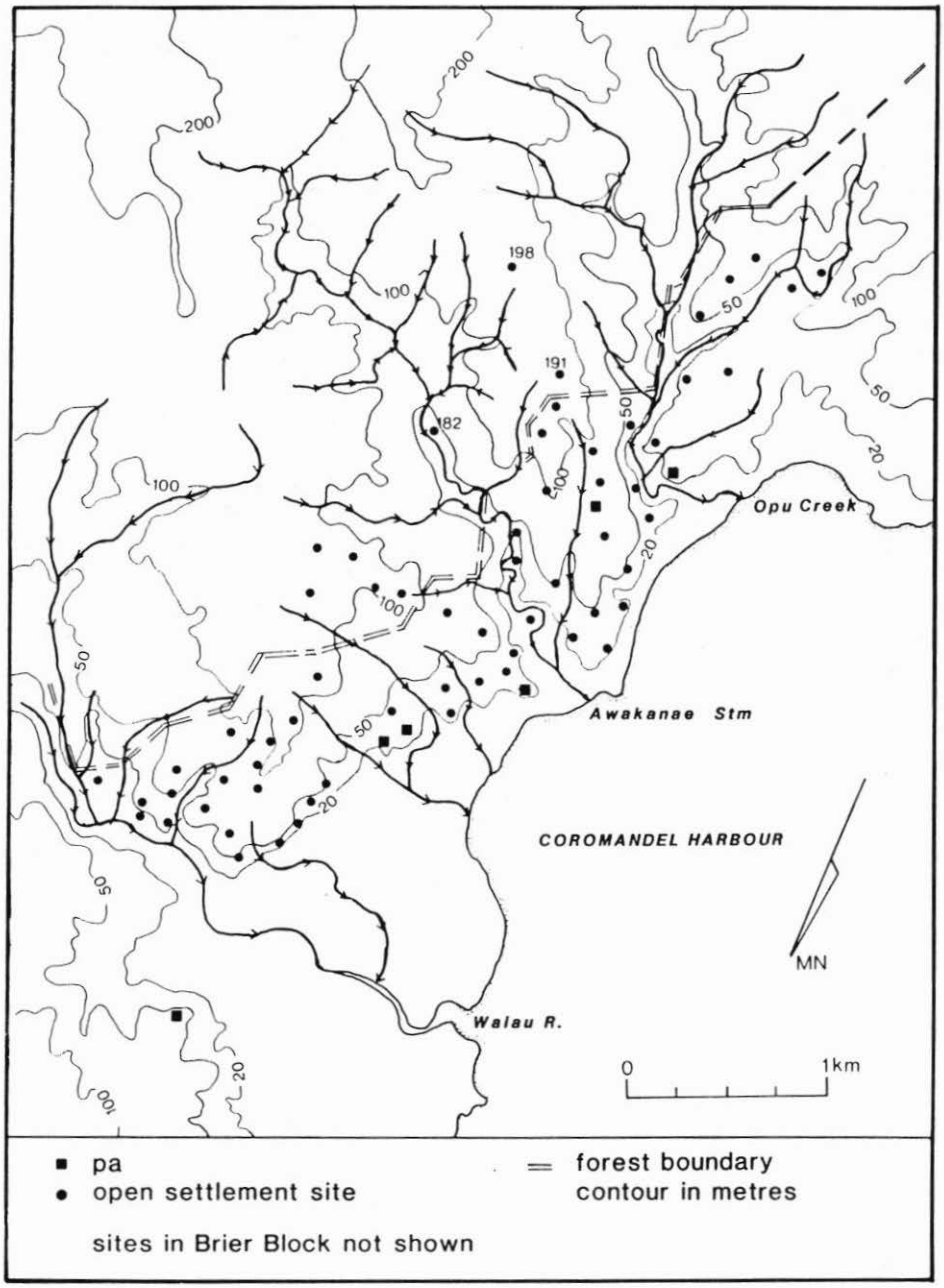

Figure 7: Distribution of sites on the Coromandel Peninsula between Waiau River and Opu Creek.

the Coromandel Peninsula was the scene of political stress at an earlier period when Ngati Huarere were put under pressure and forced out by the more powerful Tainui-related tribes from further south, namely Ngati Maru, Ngati Paoa, Ngati Whanaunga and Ngati Tamatera (Graham 1920, 1923). Ngati Huarere acquired the reputation of being the people with their

"pa in the trees", a reference to their living in the hills under bush (Simmons ms: 5).

CONCLUSION

The sites in the Brier Block represent small undefended settlements. Storage pits, shell midden and possibly house floors were uncovered on two sites.

Both N44/191 and 198 were occupied on more than one occasion. No pits were visible on the surface of N44/191, suggesting pit storage was not a feature of the last occupation. By contrast, pits were visible on the surface of N44/198.

Sites in the Brier Block date from at least the sixteenth century. A second period of use seems to have occurred in the eighteenth century, with some sites also assigned to the period after European contact.

Landsnails present in middens indicate the sites were in situations where there was bush or disturbed bush in the vicinity.

The indications are that the sites in the Brier Block represent an extension of occupation from the harbour margins into the interior, with a cut-off point at around 1.5 to 2 km from the harbour. This may possibly represent the distance beyond which it was not economically viable to transport shellfish from the coast. The inland zone may, however, have been utilised for bird hunting and other food gathering activities for which little evidence remains. European accounts suggest the area may also have been a refugium during times of political stress.

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