NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION NEWSLETTER

RESCUE OBSERVATION OF MIDDEN DEPOSITS, COROMANDEL HARBOUR

P. S. Bellwood and D. Witter

On 29th July 1967, a small party from Auckland visited a site on the south side of Coromandel Harbour (N43/6 fig. 1), where workmen with a bulldozer were clearing a flat space for a car-park. The bulldozed area was at the base of a little peak jutting out into the harbour (spot height 105 ft), on an area of relatively shallow gradient, which was clearly attractive to prehistoric settlers in the region.

In three sections cut by the bulldozer thick deposits of midden were observed and recorded, and samples were taken by D. Witter. Each section revealed several midden layers separated by thick bands of clean soil with no traces of occupation, thus indicating a considerable length of occupation for the site as a whole. As the machine was working so quickly, it was impossible to relate the three sections to each other stratigraphically, but observation of the machine's tracks showed that the charcoal and shell midden deposit extended for a considerable distance round the base of the peak. A sketch plan is here presented of the site - a plane-table survey being impracticable, as the finds were unstratified, and no structures were observed.

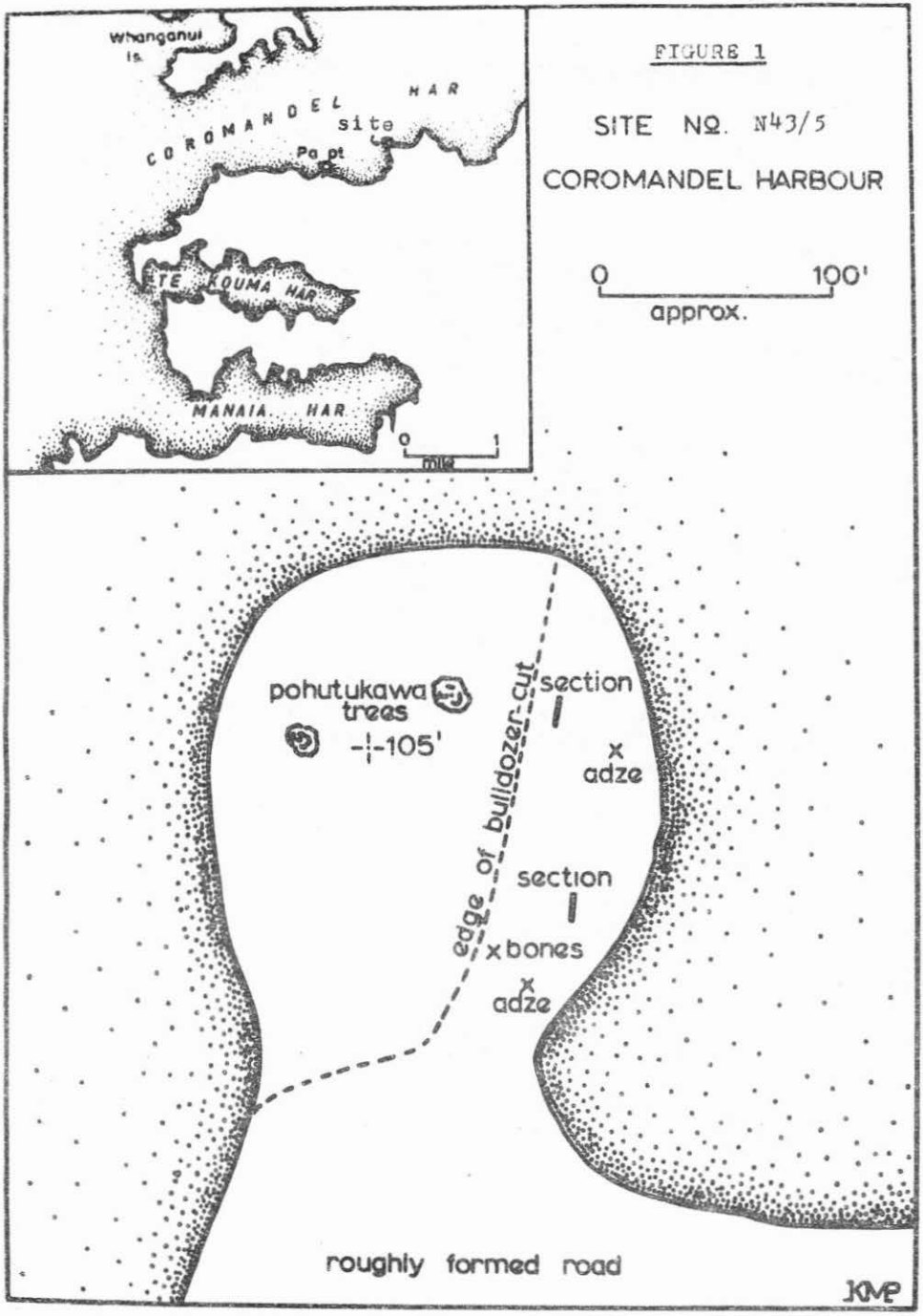
In October 1966 two adzes were found at the base of the peak, near the present cutting. These are now in the hands of a local resident who permitted me to take measurements. These are as follows:

(a) Duff 2B adze, rectangular cross-section, tangless, polished all over. Material unidentified.

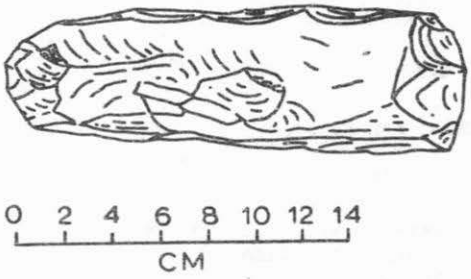
Length	64 mm.
Thickness	19 mm.
Width of blade	39 mm.

(b) Duff 1A (?) adze, rectangular cross-section, slight tang consisting of a chamfer on two corners of the poll only. Surface pecked all over to remove flake-scars, polish on blade only. Basalt.

Length	93 mm.
Thickness	23 mm.
Width of blade	64 mm.


Whanganui Is.
COROMANDEL HAR
site
Pa pt
TE KOUMA HAR
MANAIA HAR
0 1 mile
FIGURE 1
SITE NO. N43/5
COROMANDEL HARBOUR
0 100'
approx.
pohutukawa trees
105'
section
x adze
edge of bulldozer cut
section
x bones
x adze
roughly formed road
JMP

Another adze was found on 29th July 1967, in unstratified soil piled up by the bulldozer. This was drawn and photographed, but retained by the workmen. A drawing is presented of this adze. (Figure 2).



Duff 2A (?) adze, rectangular cross-section, tangless, flaked over most of its surface, and polished on the bevel only. Material unidentified.

Length	195 mm.
Thickness	42 mm.
Width of blade	57 mm.

On 27th July 1967, some human bones were dislodged by the bulldozer. According to the workmen they were found with hangi stones, but the bones themselves show no sign of burning, and this association cannot be proved. A metrical analysis of the bones, carried out by Mr M. Pietrusewski of Toronto University, provided the following information. An explanation of the measurements taken will be found in Brothwell (1963) pp. 85-93.

Specimen No. 1. Left tibia, proximal 1/3rd only.

Anterior-posterior diameter	3.2 cm.
Transverse diameter	2.1 cm.
Index of Platycnemia	65.6 cm.

Specimen No. 2. Right tibia, distal 3/4ths only. This specimen has a squatting facet on its distal anterior surface (Brothwell 1963, p. 93).

Anterior-posterior diameter	3.2 cm.
Transverse diameter	2.1 cm.
Index of Platycnemia	65.6 cm.

Specimen No. 3. Fragments of a right humerus.

Specimen No. 4. Right femur.

Length	42.8 cm.
Head diameter	4.1 cm.
Anterior-posterior diameter	2.0 cm.
Transverse diameter	3.2 cm.
Index of Platymeria	62.5 cm.

Specimen No. 5. Left femur, missing proximal head region.

Anterior-posterior diameter	2.2 cm.
Transverse diameter	3.1 cm.
Index of Platymeria	70.9 cm.

Specimen No. 6. Femur mid-shaft fragment.

All the bones, with the exception of Specimen 6, seem to belong to one individual. Although Specimens 5 and 6 have different indexes of Platymeria, this does not necessarily mean that they come from different individuals (information from M. Pietrusewski). Specimen 6 clearly represents a second individual, and was found separately from, but in the same area as, the other bones.

Specimens 1 to 5 would therefore appear to belong to a disturbed burial, and it is possible that other burials may occur in areas untouched by the bulldozer.

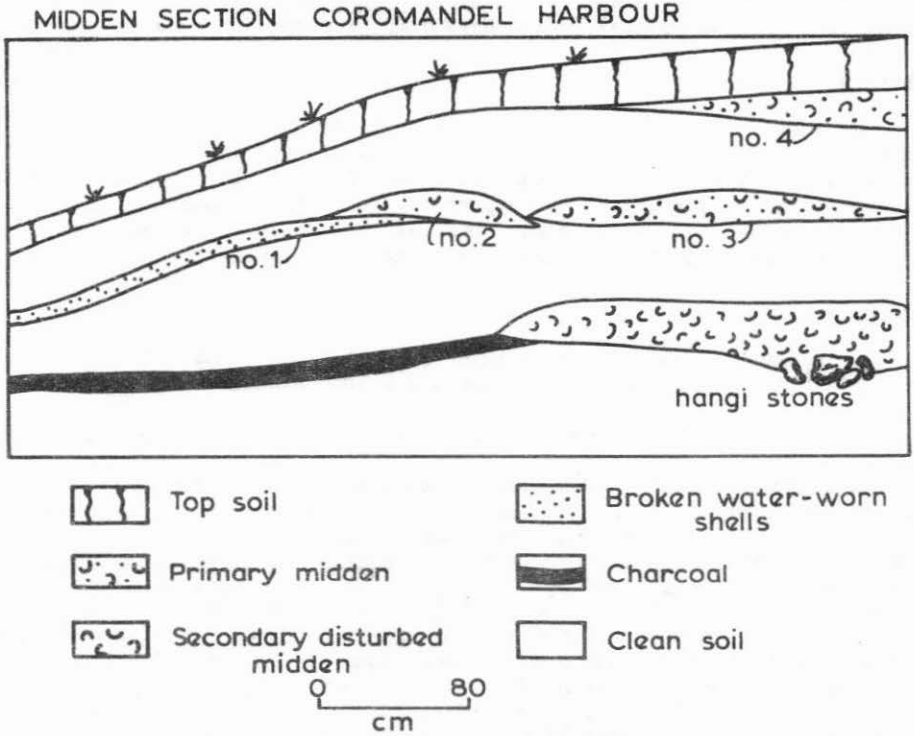
THE MIDDEN SAMPLES

The molluscan ecology of the Coromandel Harbour is typical of the Auckland area, being composed of rocky shore, beach, and mud-flat faunas. Around the headlands, of volcanic breccia, barnacles and periwinkle-type gastropods are common in the upper tidal zone; rock oysters, Hormosira

seaweed, cat's eyes and whelks in the middle zone; with mussels and other seaweeds in the lower zone. In the pebble and sand beaches the upper zone is mostly barren, but pipis are abundant in the middle and lower zones, with cockles and whelks.

The site is situated close to mud-flats and a sandy beach, and thus close to a wide range of biotic communities. The mud-flats support large populations of New Zealand cockles, and some larger species of mactrid bivalves in the finer mud. Pectens in the channel are exposed by spring tides. The native flora of the site would have consisted of tussock and flax, pohutukawa, manuka, muehlen-beckia and coprosma.

Four midden samples were taken from an exposed section for analysis (the section nearest the extremity of the point on the plan), and these reveal interesting contrasts. (Figure 3).



From a total of about 250 shells from each sample, the percentages of individual molluscs present in each sample were determined (Table 1).

Sample No. 1.

The content of this layer is very different from that of the three primary midden layers, consisting of shell fragments, some of which are wave worn. Beach pebbles and some whale bones were also present. The added presence of Zeacumanthus and Malagraphia shells, both inhabitants of the upper tidal zone, suggest that these shells were taken from the high tide beach debris, probably to form some sort of floor, at the side of which the midden layers containing samples 2-3 were deposited.

Sample No. 2.

Amphidesma (pipi) formed 66.8% of this sample, and the great size range from small to large individuals may indicate some kind of mass gathering technique. Most of the shellfish present, except for the Chione (New Zealand Cockle), would have come from the sandy beach nearby.

Sample No. 3.

Amphidesma drop in percentage slightly in this layer, while rocky shore species show an increase. This layer would appear to have been deposited soon after the layer containing sample 2. The slightly changed percentages are insufficient to support any hypotheses concerning depletion of resources, and yet the site was obviously abandoned for a considerable time before the deposition of the layer containing sample 4.

Sample No. 4.

Separated from sample 3 by a layer of soil some 60 cms. thick, this level again is mainly composed of Amphidesma and Chione.

From none of the samples are fish bones present in any quantity.

An adjacent section, with four midden deposits separated by bands of soil of the order of 25 cms. thick, supports the evidence from the above section, namely, that there was prehistoric occupation of the Coromandel Harbour by a semi-itinerant population of shellfish gatherers, presumably fairly small in numbers, who were perhaps basing their activities on the PA which lies a little to the west along the south side of the harbour. It would be unrealistic to attempt to explain the why of the non-permanent nature of settlement - whether due to environmental change affecting the food-supply, over-exploitation of the food-supply, or cultural change (Davidson 1964, p. 184). The preponderance of cockle and pipi could imply a correlation with the upper layer (layer 6) at Tairua (Smart and Green 1962, p. 255), but there is no date for the Coromandel Harbour site, and

its inhabitants would have utilized a different environment from that of Tairua.

The suggestions put forward above would obviously need verification from other sites observed under more suitable conditions, although, since the site has now passed into oblivion, some record here is clearly better than none.

TABLE I

Coromandel Harbour Site 973663 - Percentages of Individual Molluscs Present in Midden Samples

Sample	Mud-flat	Sandy Shore	Rocky Shore
1	Chione stutchburyi 13.1% (N.Z. cockle)	Amphidesma australe (pipi) 78.7%	Lepsiella Scobina .8%
			Saxostrea glomerata 4.4%
			Perna canaliculus (mussel) 1.5%
			Maoricrypta costrata 1.5%
2	Chione stutchburyi 26.6%	Amphidesma australe 66.8%	Buccinulum lineum .8%
		Paphirus largillierti .8%	Saxostrea glomerata .8%
			Perna canaliculus 3.4%
3	Amphibola crenata 9.1% (mudflat snail)	Paphirus largillierti 1.8%	Crassostrea glomerata (rock oyster) 7.3%
	Cominella adspersa 1.8% (whelk)	Amphidesma australe 40.2%	Lunella smaragda (cat's eye) 9.1%
	Chione stutchburyi 21.7%		Perna canaliculus 5.4%
	Cominella maculosa 1.8%		

Sample	Mud-flat	Sandy Shore	Rocky Shore
4	Cominella adspersa 2.9%	Paphirus largillierti 2.9%	Crassostrea glomerata 14.7%
	Chione stutchburyi 8.9%	Amphidesma australe 55.9%	Perna canaliculus 11.8%
		Cominella maculosa 2.9%	

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